AtheroNova Inc.
Form S-1
March 18, 2014
As filed with the Securities and Exchange Commission on March 17, 2014 Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form S-1

REGISTRATION STATEMENT
UNDER THE
SECURITIES ACT OF 1933

ATHERONOVA INC.

(Exact name of registrant as specified in its charter)

Delaware	**2834**	**20-1915083**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

2301 Dupont Drive, Suite 525

Irvine, CA 92612

(949) 476-1100

(Address, including zip code, and telephone number, including area code, of registrant’s principal executive offices)

Mark Selawski

Chief Financial Officer

AtheroNova Inc.

2301 Dupont Drive, Suite 525

Irvine, CA 92612

(949) 476-1100

(Name, address, including zip code, and telephone number, including area code, of agent for service)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer		Accelerated filer
Non-accelerated filer	(Do not check if smaller reporting company)	Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price [1][2]	Amount of Registration Fee [2]
Common Stock(3)	$15,000,000	$ 1,932
Underwriter’s common stock purchase warrants[3]		
Common stock included in underwriter’s common stock purchase warrants[4][5]		

(1) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.

(2) Includes shares that the underwriter has the option to purchase to cover over-allotments. See “Underwriting”.

(3) We have agreed to issue warrants exercisable within four years after the effective date of this registration statement representing 5% of the securities issued in the offering (the “Underwriter Warrants”) to Aegis Capital Corp. Resales of the Underwriter Warrants on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended, are registered hereby. Resales of shares issuable upon exercise of the Underwriter Warrants are also being similarly registered on a delayed or continuous basis hereby. See “Underwriting.” No fee required pursuant to Rule 457(g) under the Securities Act of 1933, as amended.

(4) Pursuant to Rule 416 under the Securities Act of 1933, as amended, the securities being registered hereunder include such indeterminate number of additional shares of common stock as may be issued after the date hereof as a result of stock splits, stock dividends or similar transactions.

(5) Represents 5% of the shares to be sold in this offering including shares that may be sold upon exercise of the underwriter's over-allotment option. The Underwriter's Warrants are exercisable at a per share price equal to 125% of the common stock public offering price.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS SUBJECT TO COMPLETION DATED MARCH 17, 2014

Shares

Common Stock

We are offering shares of our common stock pursuant to this prospectus.

Our common stock is presently quoted on the OTCQB under the symbol “AHRO.” On March 13, 2014, the last reported sale price of our common stock on the OTCQB was $0.38 per share.

We intend to apply to have our shares of common stock listed on the NYSE MKT under the symbol “AHRO”. No assurance can be given that our application will be approved. In the event the application is not approved, we will not complete this offering.

Investing in our common stock involves a high degree of risk. See “Risk Factors” beginning on page 5 of this prospectus for a discussion of information that should be considered in connection with an investment in our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	Per Share	Total
Public offering price	$	$
Underwriting discounts and commissions[1]	$	$

(1) The underwriters will receive compensation in addition to the underwriting discount described above. See "Underwriting" for a description of compensation payable to the underwriters.

We have granted the underwriters an option to purchase up to an additional shares of our common stock from us at the public offering price, less the underwriting discounts and commissions, within 45 days from the date of this prospectus, to cover over-allotments of the shares, if any. The underwriters expect to deliver our shares to purchasers in the offering on or about , 2014.

Aegis Capital Corp

, 2014

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ABOUT THIS PROSPECTUS

Please read this prospectus carefully. It describes our business, our financial condition and results of operations. We have prepared this prospectus so that you will have the information necessary to make an informed investment decision.

The registration statement we filed with the Securities and Exchange Commission (the "SEC") includes exhibits that provide more detail of the matters discussed in this prospectus. You should read this prospectus and the related exhibits filed with the SEC, together with the additional information described under the heading "Where You Can Find More Information," before making your investment decision.

You should rely only on the information provided in this prospectus or in a prospectus supplement or amendment thereto. We have not, and the underwriters have not, authorized anyone else to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not making an offer to sell these securities in any state where the offer or sale is not permitted. You should assume that the information in this prospectus is accurate only as of the date hereof. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside the United States: Neither we nor the underwriter has done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus outside of the United States.

prospectus summary

This summary highlights selected information contained in greater detail elsewhere in this prospectus. Because this is only a summary, it does not contain all the information that may be important to you. You should read the entire prospectus carefully before making an investment decision, including the section entitled "Risk Factors" and the consolidated financial statements and the related notes and the information set forth under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations." Unless the context otherwise requires, all references in this prospectus to "we," "us," "our" and the "Company" refer to AtheroNova Inc. and its wholly-owned subsidiary AtheroNova Operations, Inc.

Our Business

We have developed intellectual property ("IP"), covered by our issued and pending patent applications, which uses certain pharmacological compounds for the treatment of atherosclerosis, which is the primary cause of various cardiovascular diseases. Atherosclerosis occurs when cholesterol or fats are deposited and harden as plaques in the walls of arteries. This hardening reduces the space within the arteries through which blood can flow. The plaque can also rupture and greatly restrict or block altogether blood flow. Through a process called delipidization, such compounds dissolve the plaques so they can be eliminated through normal body processes and avoid such rupturing. Such compounds may be used both to treat and prevent atherosclerosis.

In the near future, we plan to continue studies and trials to demonstrate the safety and efficacy our IP. Ultimately, we plan to license our technology to various licensees throughout the world who may use it in treating or preventing atherosclerosis and other medical conditions or sublicense the IP to other such users.

Our first license agreement, entered into in November 2011, grants an exclusive distribution territory to CardioNova, a wholly-owned subsidiary of the Maxwell Biotech Group, for the Russian Federation, Belarus, Ukraine, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Moldova, Azerbaijan and Armenia (the "Territory"). CardioNova has agreed to fund Phase 1 and 2 clinical trials for our lead atherosclerotic plaque regression candidate, AHRO-001in the Territory in exchange for shares of our common stock issued at milestone achievements in the clinical trials. To date, we have issued a total of 1,997,161 shares of our common stock representing 30% of the research budget for the clinical trials. If CardioNova is successful in receiving marketing approval of AHRO-001 from the Russian Ministry of Healthcare, they will be obligated to a royalty based on annual net sales of the product in the Territory for as long as intellectual property rights are in full force and effect.

Our licensees may also produce, market or distribute products which utilize or add our compounds and technology in such treatment or prevention.

Our Strategy

Our goal is to develop a complete line of products based on our IP involving bile salts to address a number of medical conditions with the goal of introducing naturally occurring compounds to improve the medical conditions of those suffering from the effects of atherosclerosis caused by diabetes, heredity, poor diet and other plaque inducing states. Mortality and morbidity from the effects of atherosclerosis is believed to total in the billions of dollars each year for the United States healthcare system alone, with many times that for the worldwide market.

Our primary product goal is to develop our initial product candidate to address the disease of atherosclerosis. We have manufactured a significant quantity of our Active Pharmaceutical Ingredient ("API") necessary for use in clinical trials plus any requirements needed for toxicology testing. We have formulated and refined the oral administration tablet necessary to deliver our API to the ideal site in the digestive tract and are continuing to work on improvement and refinements to the formula. We are currently having our contract manufacturer, Frontage Laboratories, Inc., produce drug tablets to be used in our additional planned clinical trials by our Russian development partner. The shipment of the tablets to be used in these additional clinical trials conducted there will be in the second quarter of 2014 with the commencement of enrollment of patients during the second half of 2014, pending regulatory approvals. The active treatment phase is planned to be for a period of twelve weeks and data should be available in approximately 90-120 days. A successful completion of that trial will allow CardioNova to move forward with a clinical study intended to enable the possible drug registration application for commercial sale in its distribution territory.

Our Industry

We compete against well-capitalized, established pharmacological companies and smaller companies, as well as from academic institutions, government agencies, and private and public research institutions in the U.S. and abroad. The market for our product candidates is highly competitive. The pharmacological sector is evolving and growing rapidly, and companies are continually introducing new products and services.

Our Corporate Information

We were incorporated in Delaware in 1997 and from December 31, 2007 through May 13, 2010, we were a public "shell" company with nominal assets. On March 26, 2010, we entered into an Agreement and Plan of Merger with Z&Z Merger Corporation, a Delaware corporation and our wholly-owned subsidiary ("MergerCo"), and AtheroNova Operations, Inc., a Delaware corporation then known as Z&Z Medical Holdings, Inc. ("Z&Z Delaware"). At the closing of the merger on May 13, 2010, (i) MergerCo was merged with and into Z&Z Delaware (the "Merger"), whose name was concurrently changed to AtheroNova Operations, Inc. ("AtheroNova Operations"); (ii) Z&Z Delaware, as AtheroNova Operations, become our wholly-owned subsidiary; (iii) all of AtheroNova Operations' shares, warrants and options outstanding prior to the Merger were exchanged (or assumed, in the case of warrants and options) for comparable securities of our company; and (iv) approximately 98% of our fully-diluted shares (excluding shares issuable in certain note and warrant issuances described elsewhere in this prospectus) were owned by AtheroNova Operations' former stockholders, warrant holders and option holders.

As a result of the Merger we are solely engaged in AtheroNova Operations' business, AtheroNova Operations' officers became our officers and three of AtheroNova Operations' directors became members of our seven-member board of directors.

The address of our principal executive office is 2301 Dupont Drive, Suite 525, Irvine, California 92612, and our telephone number is (949) 476-1100. Our website address is www.atheronova.com. The information contained in, and that can be accessed through, our website is not incorporated into and is not part of this prospectus.

The Offering

Common stock offered by us	shares of common stock.
Common stock presently outstanding (1)	shares of common stock
Common stock outstanding after this offering	shares of common stock.
Over-allotment option	We have granted the underwriter the right to purchase up to additional shares of common stock from us at the public offering price less the underwriting discount within 45 days from the date of this prospectus to cover over-allotments.
Use of proceeds	We estimate that the net proceeds from the sale of shares of our common stock in this offering will be approximately $ million, or approximately $ million if the underwriters exercise their over-allotment option in full, after deducting the underwriting discount and estimated offering expenses payable by us. The principal purposes of this offering are to increase our capitalization and financial flexibility in order to continue development of our potential products. We intend to use the net proceeds from this offering for general corporate purposes, including working capital, operating expenses and capital expenditures. See the section entitled “Use of Proceeds” on page 28 of this prospectus for additional information.
Dividend policy	Our board of directors does not intend to declare cash dividends on our common stock for the foreseeable future.
OTCQB Symbol	Our common stock is currently quoted on the OTCQB under the symbol “AHRO”. We intend to apply to have our shares of common stock listed on the NYSE MKT under the same symbol.
Risk Factors	See the section entitled “Risk Factors” beginning on page 5 of this prospectus for a discussion of factors that you should consider carefully before deciding to invest in our common stock.
Transfer Agent and Registrar	Securities Transfer Corporation

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(1) We have filed preliminary proxy materials with the SEC regarding an intended reverse split of our common stock to be effected in the second quarter of 2014 at a rate to be determined by our Board of Directors. All share numbers contained herein do not give effect to such reverse split.

The number of shares of our common stock that will be outstanding immediately after this offering is based on shares of our common stock outstanding as of March , 2014, and assumes the issuance and sale of $15,000,000 of shares of our common stock in this offering at an assumed public offering price of $ per share, which was the last reported sale price of our common stock on the OTCQB on March , 2014. The number of shares of our common stock to be outstanding after this offering excludes:

- 13,083,934 shares of our common stock issuable upon the exercise of common stock purchase warrants outstanding as of March 17, 2014, with a weighted average exercise price of approximately $0.50 per share;
- 5,689,498 shares of our common stock issuable upon the exercise of stock options outstanding as of March 17, 2014, with an exercise price of approximately $0.83 per share;
- 15,870,296 shares of our common stock (including 2,071,396 shares accounting for accrued interest through maturity) issuable upon the conversion of convertible promissory notes outstanding as of March 17, 2014, at a conversion price of approximately $0.29; and
- 3,022,964 additional shares of common stock reserved for issuance under our 2010 Stock Incentive Plan, as of March 17, 2014.

Unless otherwise indicated herein, information in this prospectus:

- reflects an assumed public offering price of $ per share, which was the last reported bid price of our common stock on the OTCQB on March , 2014; and
- assumes no exercise by the underwriters of their option to purchase up to additional shares of common stock from us to cover over-allotments, if any.

Summary Financial Data

As of December 31, 2013, we had a stockholders' deficit of $2,503,004. We incurred net losses of $7,814,722 and $2,635,561 for the fiscal years ended December 31, 2013 and 2012, respectively. We have not yet achieved profitability and anticipate that we will continue to incur net losses for at least the next year. We anticipate that a substantial portion of our capital resources and efforts will be focused on research and development and other general corporate purposes. Research and development projects include the initiation of an additional clinical study by our Russian licensing partner, CardioNova, in the second half of 2014, additional ICH compliant toxicology work to be done to support filing of our investigational new drug ("IND") application with the U.S. Food and Drug Administration ("FDA") as well as commencement of human clinical trials in additional sites outside of Russia. We plan to develop multiple applications for our compounds, to be used in pharmaceutical grade products, for the treatment of lipid modulation, atherosclerosis and other lipid-related diseases. As of December 31, 2013 we had $266,210 in cash and cash equivalents and a working capital deficit of approximately $989,341 as compared to $2,774,046 in cash and cash equivalents and working capital of approximately $2,121,023 at December 31, 2012.

risk factors

Investing in our common stock involves a high degree of risk. You should carefully consider the following risk factors and all other information contained in this prospectus before purchasing shares of our common stock. If any of the following risks occur, our business, financial condition, results of operations or prospects could be materially and adversely affected. In that case, the trading price of our common stock could decline, and you could lose all or part of your investment.

Risks Related to Our Business

We will need additional funding to support our operations and capital expenditures. Such funds may not be available to us, which lack of availability could reduce our operating income, research and development activities and future business prospects.

While we have historically funded our working capital needs through the sale of equity and debt interests and through capital contributions from related parties, we will need to obtain significant additional funding to continue our planned operations, pursue business opportunities, react to unforeseen difficulties and/or respond to competitive pressures. Our financing activities in 2013, compose of exercise of common stock warrants issued in previous financings as well as a private placement of our common stock, which together raised about $787,000 during the year ended December 31, 2013, which will allow us to continue ongoing clinical trial work as well as meeting corporate obligations. We have also concluded a private placement of convertible promissory notes of $1,906,500 in February 2014, which we estimate will be sufficient to fund our planned activities through April 2014.

While we will need to raise significant additional funds, we currently have no committed sources of additional capital, and there can be no assurance that any financing arrangements will be available in amounts or on terms acceptable to us, if at all. Furthermore, the sale of additional equity or convertible debt securities may result in additional dilution to existing stockholders. If adequate additional funds are not available, we may be required to delay, reduce the scope of or eliminate material parts of the implementation of our business strategy. This limitation would impede our growth and could result in a contraction of our operations, which would reduce our operating income, research and development activities and future business prospects.

A variety of factors could impact the timing and amount of any required financings, including, without limitation:

- unforeseen developments during our clinical trials;

- delays in our receipt of required regulatory approvals;

- delayed market acceptance of our product candidates;

- unanticipated expenditures in our acquisition and defense of intellectual property rights, and/or the loss of those rights;

- the failure to develop strategic alliances for the marketing of some of our product candidates;

- unforeseen changes in healthcare reimbursement for any of our product candidates;

- lack of financial resources to adequately support our operations;
- difficulties in maintaining commercial scale manufacturing capacity and capability;
- unanticipated difficulties in operating in international markets;
- unanticipated financial resources needed to respond to technological changes and increased competition;
- unforeseen problems in attracting and retaining qualified personnel;
- enactment of new legislation or administrative regulations;
- the application to our business of new regulatory interpretations;
- claims that might be brought in excess of our insurance coverage;
- the failure to comply with regulatory guidelines; and
- the uncertainty in industry demand.

In addition, although we have no present commitments or understandings to do so, we may seek to expand our operations and product candidates through acquisitions or joint ventures. Any acquisition or joint venture would likely increase our capital requirements.

We may be unable to continue as a going concern if we do not successfully raise additional capital.

If we are unable to successfully raise the capital we need we may need to reduce the scope of our business to fully satisfy our future short-term liquidity requirements. If we cannot raise additional capital or reduce the scope of our business, we may be otherwise unable to achieve our goals or continue our operations. As discussed in Note 2 in the Notes to the Consolidated Financial Statements, we have incurred losses from operations in the prior two years and have a lack of liquidity. These factors raise substantial doubt about our ability to continue as a going concern. In addition, our independent registered public accounting firm has included in their report on our audited financial statements at December 31, 2013 and 2012 an explanatory paragraph expressing substantial doubt about our ability to continue as a going concern. While we believe that we will be able to raise the capital we need to continue our operations, there can be no assurances that we will be successful in these efforts or will be able to resolve our liquidity issues or eliminate our operating losses.

We have a history of operating losses and there can be no assurance that we can achieve or maintain profitability.

We have a history of operating losses and may not achieve or sustain profitability. Even if we achieve profitability, given the competitive and evolving nature of the industry in which we operate, we may not be able to sustain or increase profitability and our failure to do so would adversely affect our business, including our ability to raise additional funds.

Our product candidates may not be developed or commercialized successfully.

Our product candidates are based on a technology that has not been used previously in the manner we propose and must compete with more established treatments currently accepted as the standards of care. Market acceptance of our products will largely depend on our ability to demonstrate their relative safety, efficacy, cost-effectiveness and ease of use.

We are subject to the risks that:

- the U.S. Food and Drug Administration or a foreign regulatory authority finds our product candidates ineffective or unsafe;

- we do not receive necessary regulatory approvals;

- the regulatory review and approval process may take much longer than anticipated, requiring additional time, effort and expense to respond to regulatory comments and/or directives;

- we are unable to get our product candidates in commercial quantities at reasonable costs; and

- the patient and physician community does not accept our product candidates

In addition, our product development program may be curtailed, redirected, eliminated or delayed at any time for many reasons, including;

- adverse or ambiguous results;

- undesirable side effects that delay or extend the trials;

- the inability to locate, recruit, qualify and retain a sufficient number of clinical investigators or patients for our trials; and

- regulatory delays or other regulatory actions.

We cannot predict whether we will successfully develop and commercialize our product candidates. If we fail to do so, we will not be able to generate substantial revenues, if any.

Failure to obtain regulatory approval in foreign jurisdictions will prevent us or our licensees from marketing our products abroad. International sales of our product candidates that we commercialize are subject to the regulatory requirements of each country in which the products are sold. Accordingly, the introduction of our product candidates in markets outside the U.S. will be subject to regulatory approvals in those jurisdictions. The regulatory review process varies from country to country. Many countries impose product standards, packaging and labeling requirements, and import restrictions. In addition, each country has its own tariff regulations, duties and tax requirements, as well as reimbursement and healthcare payment systems. The approval by foreign government authorities is unpredictable and uncertain, and can be expensive. We may be required to perform additional pre-clinical, clinical or post-approval studies even if FDA clearance/approval has been obtained. Our ability to market our product candidates could be substantially limited due to delays in receipt of, or failure to receive, the necessary approvals or clearances.

We are uncertain regarding the success of our clinical trials for our products in development.

We believe that all of our products in development will require clinical trials to determine their safety and efficacy by regulatory bodies in their target markets, including the U.S. Food and Drug Administration and various foreign regulators. There can be no assurance that we will be able to successfully complete the U.S. and foreign regulatory approval processes for products in development. In addition, there can be no assurance that we will not encounter additional problems that will cause us to delay, suspend or terminate our clinical trials. In addition, we cannot make any assurance that clinical trials will be deemed sufficient in size and scope to satisfy regulatory approval requirements, or, if completed, will ultimately demonstrate our products to be safe and efficacious.

We and our licensees will be subject to federal and state regulation. Our inability to comply with these regulations would cause us to curtail or cease our operating activities, which would result in a reduction in revenue and harm our business, operating results and financial condition.

We and our potential licensing partners are subject to many laws and regulations, and any adverse regulatory action may affect our ability to exploit our IP. Developing, manufacturing, and marketing regulated medical products and pharmaceuticals are subject to extensive and rigorous regulation by numerous government and regulatory agencies, including the FDA and comparable foreign agencies. Under the Federal Food, Drug, and Cosmetic Act, regulated medical devices must receive FDA clearance and approval before they can be commercially marketed in the U.S. Markets outside the U.S. require similar clearance and approval before a medical product or pharmaceutical can be commercially marketed. We cannot guarantee that the FDA or other regulatory authorities will accept any IND (or similar foreign) applications we may file or that such authorities will not delay consideration of accepted applications. We also cannot guarantee that we will be able to agree on matters raised during the regulatory review process or obtain, directly or through our licensees, marketing clearance/approval from the FDA and other governing agencies for any new products, or modifications or enhancements to existing products, which we depend on for royalty revenues. Furthermore, if FDA clearance/approval is obtained, such clearance/approval could (i) take a significant amount of time; (ii) require the expenditure of substantial resources; (iii) involve rigorous pre-clinical and clinical testing; (iv) require significant modifications to, or replacements of, products; and/or (v) result in limitations on the proposed uses of products.

Even after regulated medical products or pharmaceuticals have received marketing clearance/approval, such clearance/approval by the FDA can be withdrawn due to failure to comply with regulatory standards or the occurrence of unforeseen issues following initial clearance/approval. Failure to comply with regulatory standards or subsequent discovery of unknown problems with a regulated medical product could result in fines, suspensions of regulatory approvals, seizures or recalls of devices, operating restrictions, and/or criminal prosecution. There can be no assurance that any FDA clearance/approval will not be subsequently withdrawn. Any adverse regulatory action by the FDA or another regulatory agency may restrict us and our licensees from effectively marketing and selling our IP applications in medical products, resulting in a reduction in revenue and harm to our business, operating results and financial condition. In addition, foreign laws and regulations have become more stringent and regulated medical products may become subject to increased regulation by foreign agencies in the future. Penalties for our licensees for any of their

noncompliance with foreign governmental regulations could be severe, including revocation or suspension of their business licenses and criminal sanctions. Any foreign law or regulation imposed on our IP applications may materially affect our projected operations and revenues, by adversely impacting the distribution and sale of regulated medical products in foreign jurisdictions through our intended licensees.

We depend on third parties for testing the product candidates we intend to develop. Any failure of those parties to perform as expected or required could adversely affect our product development and commercialization plans.

We have used and intend to continue to use various types of collaborative arrangements with commercial and academic entities as vehicles for testing compounds and molecules for our future product candidates. Our research arrangements and any other similar relationships we may establish may not proceed on the expected timetable, or our collaborators may not perform as expected or required under their agreements with us. The research performed under such collaborations and arrangements may not provide results that are satisfactory for regulatory approval of products containing our compounds or molecules. If our research and commercial relationships fail to yield product candidates that we can take into development, such failure will delay or prevent our ability to commercialize products.

In addition, we rely on third parties such as contract laboratories and clinical research organizations to conduct, supervise or monitor, some or all aspects of the preclinical studies and clinical trials for our product candidates, and we have limited ability to control many aspects of their activities. Accordingly, we have less control over the timing and other aspects of those clinical trials than if we conducted them on our own. Third-party contractors may not complete activities on schedule, or may not conduct our preclinical studies or clinical trials in accordance with regulatory requirements or our trial design. The failure of these third parties to perform their obligations could delay or prevent the development, approval and commercialization of our product candidates.

Our inability to effectively manage our growth could harm our business and materially and adversely affect our operating results and financial condition.

Our strategy envisions growing our business. We plan to expand our technology, sales, administrative and marketing organizations. Any growth in or expansion of our business is likely to continue to place a strain on our management and administrative resources, infrastructure and systems. As with other growing businesses, we expect that we will need to further refine and expand our business development capabilities, our systems and processes and our access to financing sources. We also will need to hire, train, supervise and manage new employees. These processes are time consuming and expensive, will increase management responsibilities and will divert management attention. We cannot assure you that we will be able to:

- expand our systems effectively or efficiently or in a timely manner;
- allocate our human resources optimally;

meet our capital needs;

identify and hire qualified employees or retain valued employees; or

incorporate effectively the components of any business or product line that we may acquire in our effort to achieve growth.

Our inability or failure to manage our growth and expansion effectively could harm our business and materially and adversely affect our operating results and financial condition.

Future developments in technology or future pharmacological compounds may make the products we are planning to bring to market obsolete, with a consequent negative impact on our profitability.

We believe that the methods for treating and preventing atherosclerosis of the pharmacological compounds we intend to bring to market enjoy certain competitive advantages, including superior performance and cost-effectiveness. Although we are not aware of any other treatments or methods currently being developed that would directly compete with the compounds and methods we intend to employ, there can be no assurance that future developments in technology or pharmacological compounds will not make our technology non-competitive or obsolete, or significantly reduce our operating margins or the demand for our offerings, or otherwise negatively impact our profitability.

Our inability to effectively protect our intellectual property would adversely affect our ability to compete effectively, our revenue, our financial condition and our results of operations.

We regard the protection of our intellectual property, which includes patents and patent applications, trade secrets, trademarks and domain names, as critical to our success. We strive to protect our intellectual property rights by relying on federal, state and common law rights, as well as contractual restrictions. We enter into confidentiality and non-disclosure agreements with most of our employees, consultants and contractors, and confidentiality agreements with parties with whom we conduct business in order to limit access to, and disclosure and use of, our proprietary information. However, these contractual arrangements and the other steps we have taken to protect our intellectual property may not prevent the misappropriation of our proprietary information or deter independent development of similar technologies by others. Further, premature disclosure of our intellectual property could adversely affect or nullify our ability to obtain patent protection in the U.S. or foreign jurisdictions.

Not all of our employees and consultants have signed confidentiality/non-disclosure agreements with us concerning our confidential and/or proprietary information relating to our technology, know-how, discoveries, data, inventions, development plans, business practices and the like. Pre-mature or unauthorized disclosure of such information may jeopardize our ability to obtain patent protection for our technology. Further, such disclosure may violate agreements we have with our licensees, other collaborators or third parties.

We do not currently require all of our employees and/or consultants to assign to us any right, title or interest the employee or consultant may have as a result of inventions, ideas, processes, techniques, formulas, discoveries, know-how, or improvements that were made by the employee/consultant, either alone or jointly with others, in direct performance of their employment/consultation for us. Failure of any aforementioned employee/consultant to assign

such rights may jeopardize our ability to obtain patent protection for our technology and may require us to obtain licenses for future use of the aforementioned inventions, ideas, processes, techniques, formulas, discoveries, know-how, or improvements made by the employee/consultant. Further, the aforementioned employee/consultant may also sell or license the aforementioned inventions, ideas, processes, techniques, formulas, discoveries, know-how, or improvements made by the employee/consultant to a competitor.

We have obtained patents and we have patent applications pending in both the U.S. and foreign jurisdictions. There can be no assurance that our patent applications will be approved, that any patents issued will adequately protect our intellectual property, or that these patents will not be challenged by third parties or found to be invalid or unenforceable. We have also obtained trademark registration in the U.S. Effective trade secret, trademark and patent protection is expensive to develop and maintain, both in terms of initial and ongoing registration requirements and the costs of defending our rights. We may be required to protect our intellectual property in an increasing number of jurisdictions, a process that is expensive and may not be successful or which we may not pursue in every location. We may, over time, increase our investment in protecting our intellectual property through additional patent and/or trademark filings that could be expensive and time-consuming.

Monitoring unauthorized use of our intellectual property is difficult and costly. Our efforts to protect our proprietary rights may not be adequate to prevent misappropriation of our intellectual property. We may not be able to detect unauthorized use of, or take appropriate steps to enforce, our intellectual property rights. Further, our competitors may independently develop technologies that are similar to ours but which avoid the scope of our intellectual property rights. Further, the laws in the U.S. and elsewhere change rapidly, and any future changes could adversely affect us and our intellectual property. Our failure to meaningfully protect our intellectual property could result in competitors offering solutions that incorporate our most technologically advanced features, which could seriously reduce demand for our product candidates. In addition, we may in the future need to initiate infringement claims or litigation. Litigation, whether we are a plaintiff or a defendant, can be expensive, time-consuming and may divert the efforts of our technical staff and managerial personnel, which could harm our business, whether or not the litigation results in a determination that is unfavorable to us. In addition, litigation is inherently uncertain, and thus we may not be able to stop our competitors from infringing our intellectual property rights.

We and our licensees may be unable to obtain IP rights to effectively protect our technology. Patents and other proprietary rights are an important part of our business plans. Our ability to compete effectively may be affected by the nature and breadth of our IP rights. We intend to rely on a combination of patents, trade secrets and licensing arrangements to protect our technology. While we intend to defend against any threats to our IP rights, there can be no assurance that any of our patents, patent applications, trade secrets, licenses or other arrangements will adequately protect our interests.

At this time, we have one granted U.S. patent, specifically U.S. Patent Number 8,304,383 that issued on November 6, 2012, claiming a method of treating atherosclerosis plaque by administering a hyodeoxycholic acid pharmaceutical formulation and one allowed U.S. application, no. 13/633,704, claiming a method of treating atherosclerosis plaque by administering a second bile c acid pharmaceutical formulation. There can also be no assurance that this or any additional patent issued to or licensed by us in the future will not be challenged or circumvented by competitors, or that any patent issued to or licensed by us will be found to be valid or be sufficiently broad to protect us and our technology. A third party could also obtain a patent that may require us to negotiate a license to conduct our business, and there can be no assurance that the required license would be available on reasonable terms or at all.

Additionally, we have pending patent applications in the United States and under the international Patent Cooperation Treaty covering other uses of our technology, for which we have not received, and may never receive, any additional patent protection for that technology. We cannot guarantee any particular result or decision by the U.S. Patent and Trademark Office or a U.S. court of law, or by any patent office or court of any country in which we have sought patent protection. If we are unable to secure patent protection for our technology, our revenue and earnings, financial condition, or results of operations would be adversely affected.

We do not warrant any opinion as to patentability or validity of any pending patent application. We do not warrant any opinion as to non-infringement of any patent, trademark, or copyright by us or any of our affiliates, providers, or distributors. Nor do we warrant any opinion as to invalidity of any third-party patent or unpatentability of any third-party pending patent application.

We may also rely on nondisclosure and non-competition agreements to protect portions of our technology. There can be no assurance that these agreements will not be breached, that we will have adequate remedies for any breach, that third parties will not otherwise gain access to our trade secrets or proprietary knowledge, or that third parties will not independently develop the technology.

We could incur substantial costs and disruption to our business as a result of any claim of infringement of another party's intellectual property rights, which could harm our business and operating results.

In recent years, there has been significant litigation in the U.S. over patents and other intellectual property rights. From time to time, we may face allegations that we or customers who use our products have infringed the trademarks, copyrights, patents and other intellectual property rights of third parties, including allegations made by our competitors or by non-practicing entities. We cannot predict whether assertions of third party intellectual property rights or claims arising from these assertions will substantially harm our business and operating results. If we are forced to defend any infringement claims, whether they are with or without merit or are ultimately determined in our favor, we may face costly litigation and diversion of technical and management personnel. Most of our competitors have substantially greater resources than we do and are able to sustain the cost of complex intellectual property litigation to a greater extent and for longer periods of time than we could. Furthermore, an adverse outcome of a dispute may require us, among other things: to pay damages, potentially including treble damages and attorneys' fees, if we are found to have willfully infringed a party's patent or other intellectual property rights; to cease making, licensing or using products that are alleged to incorporate or make use of the intellectual property of others; to expend additional development resources to redesign our products; and to enter into potentially unfavorable royalty or license agreements in order to obtain the rights to use necessary technologies. Royalty or licensing agreements, if required, may be unavailable on terms acceptable to us, or at all. In any event, we may need to license intellectual property which would require us to pay royalties or make one-time payments. Even if these matters do not result in litigation or are resolved in our favor or without significant cash settlements, the time and resources necessary to resolve them could harm our business, operating results, financial condition and reputation.

IP litigation would be costly and could adversely impact our business operations.

We may have to take legal action in the future to protect some or all of our technology or to assert our IP rights against others. Any legal action could be costly and time consuming to us and no assurances can be made that any action will be successful. The invalidation of any patent or IP right that we own, or an unsuccessful outcome in lawsuits to protect our technology, could have a material adverse effect on our business, financial position, or results

of operations.

We operate and compete in an industry that is characterized by extensive IP litigation. In recent years, it has been common for companies in the medical product and pharmaceutical businesses to aggressively file patent-infringement and other intellectual-property litigation in order to prevent the marketing of new or improved medical products, treatments, or pharmaceuticals. IP litigation can be expensive, complex, and protracted. Because of such complexity, and the vagaries of the jury system, IP litigation may result in significant damage awards and/or injunctions that could prevent the manufacture, use, distribution, importation, exportation, and sale of products or require us and/or any of our licensing partners to pay significant royalties in order to continue to manufacture, use, distribute, import, export, or sell products. Furthermore, in the event that our right to license or to market our technology is successfully challenged, and if we and/or our licensing partners fail to obtain a required license or are unable to design around a patent held by a third party, our business, financial condition, or results of operations could be materially adversely affected. We believe that the patents we have applied for, if granted, would provide valuable protection for our intellectual property, but there nevertheless could be no assurances that they would be respected or not subject to infringement by others.

Product safety and product liability claims and litigation would be costly and adversely impact our financial condition.

Our pharmaceutical compounds will have known side effects and could have significant side effects that are not identified during the research and approval phases. If patients are adversely affected by known or unknown side effects, related claims may exceed insurance coverage and materially and adversely impact our financial condition.

Our business exposes us to the risk of product liability claims that are inherent in the development of medical products. If the use of one or more of our products harms people, we may be subject to costly and damaging product liability claims brought against us by clinical trial participants, consumers, health care providers, pharmaceutical companies or others selling our products. However, we cannot predict all of the possible harms or side effects that may result and, therefore, the amount of insurance coverage we hold may not be adequate to cover all liabilities we might incur. In addition, our failure to maintain such coverage may violate certain of our development agreements. We intend to expand our insurance coverage to include the sale of commercial products as we obtain marketing approval for our product candidates and as our sales expand, but we may be unable to obtain commercially reasonable product liability insurance for such products. If we are unable to obtain insurance at an acceptable cost or otherwise protect against potential product liability claims, or if our coverage turns out to be insufficient, we may be exposed to significant liabilities, including liabilities under certain of our development agreements, which may materially and adversely affect our business and financial position. A product liability claim or series of claims brought against us would decrease our cash and could reduce our value or marketability.

Our industry is highly competitive and we have less capital and resources than many of our competitors, which may give them an advantage in developing and marketing products similar to ours or make our products obsolete.

We are engaged in highly competitive fields of pharmaceutical research and development. Competition from numerous existing companies and others entering the fields in which we operate is intense and expected to increase. We face competition from established pharmaceutical companies, as well as from academic institutions, government agencies, and private and public research institutions in the U.S. and abroad. Most, if not all, of our competitors have significantly greater financial resources and expertise than we do in research and development, manufacturing, pre-clinical testing, conducting clinical trials, obtaining regulatory approvals, marketing approved products, protecting and defending their intellectual property rights and designing around the intellectual property rights of others. Other small or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements, or mergers with, or acquisitions by, large and established companies, or through the development of novel products and technologies. Moreover, competitors that are able to complete clinical trials, obtain required regulatory approvals and commence commercial sales of their products before we do may enjoy a significant competitive advantage over us. There are also existing therapies that may compete with the products we are developing. There can be no assurance that we will be able to successfully compete against these other entities.

If we do not establish strategic partnerships to commercialize our products under development, we will have to undertake commercialization efforts on our own, which could be costly and may ultimately be unsuccessful.

We may selectively partner with other companies to obtain assistance for the commercialization of certain of our products. We may enter into strategic partnerships with third parties to develop and commercialize some of our products that are intended for larger markets or that otherwise require a large, specialized sales and marketing organization, and we may enter into strategic partnerships for products that are targeted beyond our selected target markets. We face competition in seeking appropriate strategic partners, and these strategic partnerships can be intricate and time consuming to negotiate and document. We may not be able to negotiate strategic partnerships on acceptable terms, or at all. We are unable to predict when, if ever, we will enter into any strategic partnerships because of the numerous risks and uncertainties associated with establishing strategic partnerships. If we are unable to negotiate strategic partnerships for our products under development, we may be forced to reduce the scope of our anticipated sales or marketing activities or undertake commercialization activities at our own expense. In addition, we will bear the entire risk related to the commercialization of these products. If we elect to increase our expenditures to fund commercialization activities on our own, we will need to obtain additional capital, which may not be available to us on acceptable terms, or at all.

Furthermore, if we enter into commercialization arrangements with third parties, we may have limited or no control over the sales, marketing and distribution activities of these third parties, and these third parties may not be successful or effective in commercializing, selling and marketing our products. If we fail to create successful and effective marketing and distribution channels, our ability to generate revenue and achieve our anticipated growth could be adversely affected. If these distributors experience financial or other difficulties, sales of our products could be reduced, and our business, financial condition and results of operations could be harmed.

We cannot predict whether we will successfully develop and commercialize our product candidates. If we fail to do so, we will not be able to generate substantial revenues, if any.

If our licensees fail to sustain compliance with regulatory standards and laws applicable to medical products production, manufacturing and quality processes, the marketing of our products could be suspended, and such suspension could, for our licensees, lead to fines, withdrawal of regulatory clearances, product recalls, or other consequences, any of which could in turn adversely affect our projected business operations, financial condition, or results of operations.

Both before and after clearance/approval of our product candidates, we, our product candidates, our suppliers and our contract manufacturers are subject to extensive regulation by governmental authorities in the U.S. and other countries. Failure to comply with applicable requirements could result in, among other things, any of the following actions:

warning letters;

fines and other monetary penalties;

unanticipated expenditures;

delays in FDA clearance/approval, or FDA refusal to approve or clear a product candidate;

product recall or seizure;

interruption of manufacturing or clinical trials;

operating restrictions;

injunctions; and

criminal prosecutions.

The FDA's requirements may change and additional government regulations may be promulgated that could affect us, our product candidates, and our suppliers and contract manufacturers. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action. There can be no assurance that we will not be required to incur significant costs to comply with such laws and regulations in the future, or that such laws or regulations will not have a material adverse effect upon our business.

Our licensees, which will be manufacturers of medical products or pharmaceuticals, will be subject to periodic inspection by the FDA for compliance with regulations that require manufacturers to comply with certain practices and standards, including testing, manufacturing, quality control, labeling, advertising, promotion, distribution and documentation procedures. In addition, federal medical device reporting regulations will require them to provide information to the FDA whenever there is evidence that reasonably suggests that a medical product may have caused or contributed to a death or serious injury or, if a malfunction were to occur, could cause or contribute to a death or serious injury. Compliance with these requirements is subject to continual review and is rigorously monitored through periodic FDA inspections. We cannot be sure that the FDA will not identify compliance issues that may disrupt production or distribution, or require substantial resources to correct. In foreign markets, our licensing partners will be required to obtain certain certifications in order to sell medical products and will have to undergo periodic inspections by regulatory bodies to maintain these certifications. If our licensees fail to adhere to any laws and standards applicable to medical product manufacturers, the marketing of products could be suspended, and such failure could, for our licensees, lead to fines and withdrawal of regulatory clearances, product recalls, or other consequences, any of which could in turn adversely affect our projected business operations, financial condition, or results of operations. Our licensees will also be subject to certain environmental laws and regulations. Our licensing partners' manufacturing operations may involve the use of substances and materials regulated by various environmental protection agencies and regulatory bodies. We cannot guarantee that any licensee will sustain compliance with environmental laws, and that regulations will not have a material impact on our earnings, financial condition, or business operations.

Failure of our licensees to comply with laws and regulations relating to reimbursement of health care products may adversely impact our business operations.

Medical products are subject to regulation regarding quality and cost by the United States Department of Health and Human Services, Centers for Medicare & Medicaid services and comparable state and foreign agencies that are responsible for payment and reimbursement of healthcare goods and services. In the U.S., healthcare laws apply to our licensing partners' business operations when a reimbursement claim is submitted under a federal government funded healthcare program. Federal laws and regulations prohibit the filing of false or improper claims for federal payment and unlawful inducements for the referral of business reimbursable under federally-funded healthcare programs (known as the anti-kickback laws). If a governmental agency or regulatory body were to conclude that our licensees were not in compliance with applicable laws and regulations regarding payment or reimbursement of medical products, they could be subject to criminal and civil penalties, including exclusion from participation as a supplier of products to beneficiaries covered by government healthcare programs. Such exclusions could negatively affect our distribution channels, financial condition or results of operations.

Quality problems with a licensee's manufacturing processes could harm our reputation and affect demand for medical products using our technology.

Ensuring the quality of products and manufacturing processes is critical for medical product companies due to the high cost and seriousness of product failures or malfunctions. If any of our licensees failed to meet adequate quality standards, its and our reputations could be damaged and our revenues would decline. In addition, production of medical products which utilize our technology may depend on our licensees' abilities to engineer and manufacture precision components and assemble such components into intricate medical products. We cannot guarantee that our licensees or third-party suppliers will not encounter problems or delays in timely manufacturing or assembling our products and other materials related to the manufacture or assembly of our products, or in manufacturing our products in amounts sufficient to support our development and commercialization efforts. If our licensees fail to meet these requirements or fail to adapt to changing requirements, their and our reputations may suffer and demand for products implementing our technology would decline significantly.

Uncertainties regarding healthcare reimbursements may adversely affect our business.

Healthcare cost containment pressures decrease the prices end-users are willing to pay for medical products, which could have an adverse effect on our royalty revenue. Products that may implement our technology may be purchased by hospitals or physicians, which typically bill governmental programs, private insurance plans and managed care plans for the healthcare devices and services provided to their patients. The ability of these customers to obtain reimbursement from private and governmental third-party payors for the products and services they provide to patients is critical to commercial success. The availability of reimbursement affects which products customers purchase and the prices they are willing to pay. Reimbursement varies from country to country and can significantly impact the

acceptance of new products and services. Although we and our licensees may have a promising new product, we and our licensees may find limited demand for the medical product unless reimbursement approval is obtained from private and governmental third-party payors. Even if reimbursement approval is obtained from private and governmental third-party payors, we may still find limited demand for the product for other reasons. In addition, legislative or administrative reforms to the U.S., or to international reimbursement systems, in a manner that significantly reduces reimbursement for products or procedures using our technology, or denial of coverage for those products or procedures, could have a material adverse effect on our business, financial condition or results of operations.

Major third-party payors for hospital services in the U.S. and abroad continue to work to contain healthcare costs. The introduction of cost containment incentives, combined with closer scrutiny of healthcare expenditures by both private health insurers and employers, has resulted in increased discounts and a contractual adjustment to hospital charges for services performed and has shifted services between inpatient and outpatient settings. Initiatives to limit the increase of healthcare costs, including price regulation, are also ongoing in markets in which our licensees may do business. Hospitals or physicians may respond to these cost-containment pressures by insisting that our licensees lower prices, which may adversely affect our royalties.

In response to increasing healthcare costs, there has been and may continue to be proposals by legislators, regulators, and third-party payors to reduce these costs. If these proposals are passed, limitations and/or reductions may be placed on the net or allowable price of products implementing our technology or the amounts of reimbursement available for these products from customers, governmental bodies, and third-party payors. These limitations and reductions on prices may have a material adverse effect on our financial position and results of operations.

To obtain reimbursement or pricing approval in some countries, we may be required to produce clinical data, which may involve one or more clinical trials, that compares the cost-effectiveness of our approved products to other available therapies. We may not obtain reimbursement or pricing approvals in markets we seek to enter in a timely manner, if at all. Our failure to receive reimbursement or pricing approvals in target markets would negatively impact market acceptance of our product candidates in these jurisdictions, placing us at a material cost disadvantage to our competitors.

Even if we obtain reimbursement approvals for our product candidates, we believe that, in the future, reimbursement for any of our product candidates may be subject to increased restrictions both in the U.S. and in international markets. Future legislation, regulation or policies of third party payers that limit reimbursement may adversely affect the demand for our product candidates and our ability to sell our product candidates on a profitable basis. In addition, third party payers continually attempt to contain or reduce the costs of healthcare by challenging the prices charged for healthcare products and services.

In the U.S., specifically, health care providers, such as hospitals and clinics, generally rely on third-party payers. Third-party reimbursement is dependent upon decisions by the Centers for Medicare and Medicaid Services, contracted Medicare carriers or intermediaries, individual managed care organizations, private insurers, foreign governmental health programs and other payers of health care costs. Failure to receive or maintain favorable coding, coverage and reimbursement determinations for our product candidates by these organizations could discourage medical practitioners from using our product candidates due to their costs. In addition, with recent federal and state government initiatives directed at lowering the total cost of health care, the U.S. Congress and state legislatures will likely continue to focus on health care reform including the reform of the Medicare and Medicaid entitlement programs, and on the cost of medical products and services, which could limit reimbursement. Additionally, third-party payers are increasingly challenging the prices charged for medical products and services. We may be unable to sell our product candidates on a profitable basis if third-party payers deny coverage, provide low reimbursement rates or reduce their current levels of reimbursement.

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We and our licensees will be required to attract and retain top quality talent to compete in the marketplace.

We believe our future growth and success will depend in part on our and our licensees' abilities to attract and retain highly skilled managerial, product development, sales and marketing, and finance personnel. There can be no assurance of success in attracting and retaining such personnel. Shortages in qualified personnel could limit our ability to increase sales of existing products and services and launch new product and service offerings.

Our forecasts are highly speculative in nature and we cannot predict results in a development stage company with a high degree of accuracy.

Any financial projections, especially those based on ventures with minimal operating history, are inherently subject to a high degree of uncertainty, and their ultimate achievement depends on the timing and occurrence of a complex series of future events, both internal and external to the enterprise. There can be no assurance that potential revenues or expenses we project will, in fact, be received or incurred.

We are subject to evolving and expensive corporate governance regulations and requirements. Our failure to adequately adhere to these requirements or the failure or circumvention of our controls and procedures could seriously harm our business.

As a publicly traded company, we are subject to various federal, state and other rules and regulations, including applicable requirements of the Sarbanes-Oxley Act of 2002. Compliance with these regulations is costly and requires a significant diversion of management time and attention, particularly with regard to our disclosure controls and procedures and our internal control over financial reporting. Our internal controls and procedures may not be able to prevent errors or fraud in the future. Faulty judgments, simple errors or mistakes, or the failure of our personnel to adhere to established controls and procedures may make it difficult for us to ensure that the objectives of the control system are met. A failure of our controls and procedures to detect other than inconsequential errors or fraud could seriously harm our business and results of operations.

Our limited senior management team size may hamper our ability to effectively manage a publicly traded company while developing our products and harm our business.

Our management team has experience in the management of publicly traded companies and complying with federal securities laws, including compliance with recently adopted disclosure requirements on a timely basis. They realize it will take significant resources to meet these requirements while simultaneously working on licensing, developing and

protecting our IP. Our management will be required to design and implement appropriate programs and policies in responding to increased legal, regulatory compliance and reporting requirements, and any failure to do so could lead to the imposition of fines and penalties and harm our business.

The issuance of convertible promissory notes has subjected us to possible remedies of a secured creditor and has limited our financing alternatives.

Our obligations under our outstanding convertible promissory notes are debt obligations secured by security interests in all of our and all of the assets of our subsidiaries, including intellectual property. If we default on our obligations under our convertible promissory notes and related agreements, the holders of such notes will be entitled to all the remedies available to secured creditors under the applicable Uniform Commercial Code, including (without limitation) the ability to accelerate the due date for the entire principal amount, charge default interest and penalties and foreclose on our assets. In addition, we are required to comply with certain covenants under such notes, including covenants relating to incurring additional indebtedness without consent of the holders of such notes. These covenants, in the absence of waiver by the holders of such notes, limit our ability to fund our operations through additional debt financing. Additionally, financial penalties in such notes and the accompanying warrants may make it difficult to us to obtain funding from, or be acquired by, a third party.

Our Chief Executive Officer’s departure could be an event of default under our convertible promissory notes.

While we believe that Thomas Gardner’s services will be available to us, there can be no assurances that the financial arrangements that we have made for Mr. Gardner, or the provisions of the management consulting agreement we entered into with him will be effective and adequate at this stage in our development to retain his services. If Mr. Gardner ceases to be a contractor of our Company (other than due to a termination without good cause), that will be an event of default under our outstanding convertible promissory notes unless we obtain a reasonably acceptable full-time replacement for Mr. Gardner within 90 days after such termination.

Risks Related to Our Common Stock and this Offering

The limited trading market for our common stock results in limited liquidity for shares of our common stock and significant volatility in our stock price.

Although prices for our shares of common stock are quoted on the OTCQB, there is little current trading and no assurance can be given that an active public trading market will develop or, if developed, that it will be sustained. The OTCQB is generally regarded as a less efficient and less prestigious trading market than other national markets. There is no assurance if or when our common stock will be quoted on another more prestigious exchange or market. Active trading markets generally result in lower price volatility and more efficient execution of buy and sell orders. The absence of an active trading market reduces the liquidity of our common stock.

The market price of our stock is likely to be highly volatile because for some time there will likely be a thin trading market for the stock, which causes trades of small blocks of stock to have a significant impact on our stock price. As a result of the lack of trading activity, the quoted price for our common stock on the OTCQB is not necessarily a reliable indicator of its fair market value. Further, if we cease to be quoted, holders of our common stock would find it more difficult to dispose of, or to obtain accurate quotations as to the market value of, our common stock, and the market value of our common stock would likely decline.

An active trading market may not develop for our common stock, and you may not be able to sell your stock at or above the public offering price per share.

There is a very limited trading market for our common stock, and the market for our common stock may be highly volatile or may decline regardless of our operating performance. An active public market for our common stock may not develop or be sustained after this offering. We cannot predict the extent to which investor interest in our company will lead to the development of an active trading market in our common stock or how liquid that market might become. If an active market does not develop or is not sustained, it may be difficult for you to sell your shares of common stock at the time you wish to sell them, at a price that is attractive to you, or at all.

The public offering price per share has been determined based on the bid price on our common stock on the OTCQB and through negotiation between us and representatives of the underwriters, and may not be indicative of the market price for our common stock after this offering. You may not be able to sell your shares at or above the public offering price per share.

Trading in our common stock will be subject to regulatory restrictions since our common stock is considered a "penny stock."

Our common stock is currently, and in the near future will likely continue to be, considered a "penny stock." The Securities and Exchange Commission ("SEC") has adopted rules that regulate broker-dealer practices in connection with transactions in "penny stocks." Penny stocks generally are equity securities with a price of less than $5.00 (other than securities registered on certain national securities exchanges or authorized for quotation on certain automated quotation systems, provided that current price and volume information with respect to transactions in such securities is provided by the exchange or system). The penny stock rules require a broker-dealer, prior to a transaction in a penny stock not otherwise exempt from those rules, to deliver a standardized risk disclosure document prepared by the SEC, which specifies information about penny stocks and the nature and significance of risks of the penny stock market. The broker-dealer also must provide the customer with bid and offer quotations for the penny stock, the compensation of the broker-dealer and any salesperson in the transaction, and monthly account statements indicating the market value of each penny stock held in the customer's account. In addition, the penny stock rules require that, prior to a transaction in a penny stock not otherwise exempt from those rules; the broker-dealer must make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser's written agreement to the transaction. These disclosure and other requirements may adversely affect the trading activity in the secondary market for our common stock.

The price of our common stock may be volatile, and the market price of our common stock after this offering may drop below the price you pay.

Our public offering price per share may vary from the market price of our common stock after the offering. If an active market for our stock develops and continues, our stock price nevertheless may be volatile. Market prices for securities of development-stage life sciences companies have historically been particularly volatile. As a result of this volatility, you may not be able to sell your common stock at or above the public offering price per share. The factors that may cause the market price of our common stock to fluctuate include, but are not limited to:

- progress, or lack of progress, in developing and commercializing our products;
- our intellectual property portfolio;
- favorable or unfavorable decisions about our products from government regulators;
- unforeseen changes in healthcare reimbursement policies;
- our failure to comply with regulatory guidelines;
- our ability to recruit and retain qualified personnel;
- changes in investors' perception of the business risks and conditions of our business;
- changes in our strategic alliances or our relationship with key collaborators;
- changes in key personnel;
- depth of the trading market in our common stock;
- changes in our capital structure, such as future issuances of securities or the incurrence of additional debt;
- the granting or exercise of employee stock options or other equity awards;

- realization of any of the risks described under this section entitled “Risk Factors”; and

- general market and economic conditions.

In addition, the equity markets have experienced significant price and volume fluctuations that have affected the market prices for the securities of newly public companies for a number of reasons, including reasons that may be unrelated to our business or operating performance. These broad market fluctuations may result in a material decline in the market price of our common stock and you may not be able to sell your shares at prices you deem acceptable. In the past, following periods of volatility in the equity markets, securities class action lawsuits have been instituted against public companies. Such litigation, if instituted against us, could result in substantial cost and the diversion of management attention.

The shares you purchase in this offering will experience immediate and substantial dilution.

The public offering price per share of our common stock will be substantially higher than the net tangible book value per share of our common stock immediately after the offering. At the assumed public offering price of $ per share (which was the last reported sale price per share of our common stock on the OTCQB on March , 2014), purchasers of our common stock will incur immediate dilution of $ per share in the net tangible book value of their purchased shares. Conversely, the shares of our common stock that our existing stockholders currently own will receive an increase in net tangible book value per share. See the section entitled “Dilution” elsewhere in this prospectus.

You may be diluted by exercises of outstanding options and warrants and conversions of outstanding convertible promissory notes.

As of March 17, 2014, we had outstanding options to purchase an aggregate of 5,689,498 shares of our common stock at a weighted average exercise price of $0.83 per share, warrants to purchase an aggregate of 13,083,934 shares of our common stock at a weighted average exercise price of $0.50 per share and convertible promissory notes convertible into an aggregate of 15,870,296 shares of our common stock (including 2,071,396 shares accounting for accrued interest through maturity) at a conversion price of $0.29 per share. The exercise of such outstanding options and warrants and the conversion of such outstanding convertible promissory notes will result in further dilution of your investment. In addition, you may experience additional dilution if we issue common stock in the future. As a result of this dilution, you may receive significantly less in net tangible book value than the full purchase price you paid for the shares in the event of liquidation.

Substantial future sales of our common stock in the public market could cause our stock price to fall.

Sales of a significant number of shares of our common stock in the open market could cause additional harm to the market price of our common stock. Further reduction in the market price for our shares could make it more difficult to raise funds through future equity offerings.

Some of our shares may also be offered from time-to-time in the open market pursuant to Rule 144, and these sales may have a depressive effect on the market for our shares. In general, a non-affiliate who has held restricted shares for a period of six months may sell an unrestricted number of shares of our common stock into the market.

Our management will have broad discretion over the use of the proceeds we receive in this offering, and may not apply the proceeds in ways that increase the value of your investment.

We estimate that net proceeds of the sale of the common stock that we are offering will be approximately $ million, or $ million, if the underwriters exercise their over-allotment option in full. We currently intend to use the net proceeds from this offering for general corporate purposes, including working capital, operating expenses and capital expenditures. We anticipate making capital expenditures in 2014 of approximately $125,000 to $175,000, and we may use a portion of the net proceeds to fund our anticipated capital expenditures. We also may use a portion of the net proceeds to acquire businesses, products, services or technologies. However, we will have broad discretion in the application of the net proceeds, and investors will be relying on our judgment regarding the application of the proceeds of this offering. The actual amounts and timing of our expenditures depends on numerous factors, including the success of our efforts to develop and commercialize our products, to obtain regulatory approval to sell our products, the timing and progress of our research and development activities, changes in regulatory requirements, and other unforeseen regulatory or compliance costs. The costs and timing of research and development activities, particularly conducting clinical trials and obtaining regulatory clearance or approval, are highly uncertain, subject to substantial risks and can often change. Depending on the outcome of these activities, our plans and priorities may change and we may apply the net proceeds of this offering differently than we currently anticipate. Moreover, you will not have the opportunity to influence our decision on how to use the proceeds from this offering. We may use the proceeds for corporate purposes that do not immediately enhance our prospects for the future or increase the value of your investment. See the section entitled “Use of Proceeds” elsewhere in this prospectus.

We have not paid dividends in the past and do not expect to pay dividends for the foreseeable future, and any return on investment may be limited to potential future appreciation on the value of our common stock.

We currently intend to retain any future earnings to support the development and expansion of our business and do not anticipate paying cash dividends in the foreseeable future. Our payment of any future dividends will be at the discretion of our board of directors after taking into account various factors, including without limitation, our financial condition, operating results, cash needs, growth plans and the terms of any credit agreements that we may be a party to at the time. To the extent we do not pay dividends, our stock may be less valuable because a return on investment will only occur if and to the extent our stock price appreciates, which may never occur. In addition, investors must rely on sales of their common stock after price appreciation as the only way to realize their investment, and if the price of our stock does not appreciate, then there will be no return on investment. Investors seeking cash dividends should not purchase our common stock.

Our officers, directors and principal stockholders can exert significant influence over us and may make decisions that are not in the best interests of all stockholders.

Our officers, directors and principal stockholders (greater than 5% stockholders) collectively own approximately 42.2% of our outstanding common stock, and approximately 56.3% of our fully-diluted common stock. As a result of such ownership and the Voting Agreement that is in place, these stockholders will be able to affect the outcome of, or exert significant influence over, all matters requiring stockholder approval, including the election and removal of directors and any change in control. In particular, this concentration of ownership of our common stock could have the effect of delaying or preventing a change of control of us or otherwise discouraging or preventing a potential acquirer from attempting to obtain control of us. This, in turn, could have a negative effect on the market price of our common stock. It could also prevent our stockholders from realizing a premium over the market prices for their shares of common stock. Moreover, the interests of this concentration of ownership may not always coincide with our interests or the interests of other stockholders, and accordingly, they could cause us to enter into transactions or agreements that we would not otherwise consider.

Anti-takeover provisions may limit the ability of another party to acquire us, which could cause our stock price to decline.

Our amended and restated certificate of incorporation, our bylaws and Delaware law contain provisions that could discourage, delay or prevent a third party from acquiring us, even if doing so may be beneficial to our stockholders. In addition, these provisions could limit the price investors would be willing to pay in the future for shares of our common stock.

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forward-looking statements

This prospectus contains “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, as amended. The forward-looking statements are only predictions and provide our current expectations or forecasts of future events and financial performance and may be identified by the use of forward-looking terminology, including the terms “believes,” “estimates,” “anticipates,” “expects,” “plans,” “predict,” “potential,” “intends,” “may,” “will” “would,” “could,” or “should” or, in each case, their negative, or other or comparable terminology, though the absence of these words does not necessarily mean that a statement is not forward-looking. Forward-looking statements include all matters that are not historical facts and include, without limitation statements concerning: our business strategy, outlook, objectives, future milestones, plans, intentions, goals, and future financial condition, including the period of time for which our existing resources will enable us to fund our operations; plans regarding our efforts to gain U.S. regulatory approval for our bile salts technology for the regression of atherosclerotic plaque deposits; the possibility, timing and outcome of submitting regulatory filings for our products under development; our research and development programs for our bile salt technology and other possible indications of the use of bile salts in reducing lipid deposits, including planning for and timing of any clinical trials and potential development milestones; the development of financial, clinical, licensing and distribution plans related to the potential commercialization of our drug products, if approved; and plans regarding potential strategic alliances and other collaborative arrangements with pharmaceutical companies and others to develop, license, manufacture and market our products.

Forward-looking statements are based on information we have when those statements are made or management’s good faith belief as of that time with respect to future events, and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in or suggested by the forward-looking statements. Moreover, new risks regularly emerge and it is not possible for us to predict or articulate all risks we face, nor can we assess the impact of all risks on our business or the extent to which any risk, or combination of risks, may cause actual results to differ from those contained in any forward-looking statements.

All forward-looking statements included in this prospectus are based on information available to us on the date of this prospectus. Except to the extent required by applicable laws or rules, we undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise. All subsequent written and oral forward looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the cautionary statements contained above and throughout this prospectus.

We intend that all forward-looking statements be subject to the safe-harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are subject to many risks and uncertainties that could cause actual results to differ materially from any future results expressed or implied by the forward-looking statements. We caution you therefore against relying on any of these forward-looking statements. They are neither statements of historical fact nor guarantees or assurances of future performance. Examples of the risks and uncertainties include, but are not limited to:

risks related generally to our efforts to gain regulatory approval, in the United States and elsewhere, for our drug product candidates, including our lead compounds that we are developing to address atherosclerotic plaque regression and other possible applications of bile salts for the regression or dissolution of lipid deposits;

the risk that we and the FDA or other regulatory authorities will not be able to agree on matters raised during the regulatory review process, or that we may be required to conduct significant additional activities to potentially gain approval of our product candidates, if ever;

the risk that the FDA or other regulatory authorities may not accept, or may withhold or delay consideration of, any applications that we may file, or may not approve our applications or may limit approval of our products to particular indications or impose unanticipated label limitations;

risks relating to the rigorous regulatory approval processes, including pre-filing activities, required for approval of any drug or possible combination drug-device products that we may develop, whether independently, with strategic development partners or pursuant to collaboration arrangements;

the risk that the FDA will not be satisfied with the results of our efforts to file an application for an IND based on the data accumulated in our pre-clinical research;

risks relating to our research and development activities, which involve time-consuming and expensive preclinical studies and other efforts for which we depend on collaborative arrangements with commercial and academic entities, who may not complete activities on schedule or conduct such activities in accordance with regulatory requirements or our trial designs;

risks relating to the transfer of our manufacturing technology to third-party contract manufacturers and assemblers;

the risk that we, our licensing partners or any third-party suppliers may encounter problems or delays in manufacturing or assembling drug products, drug product substances, ancillary devices and related components and other materials on a timely basis or in an amount sufficient to support our development efforts and, if our products are approved, commercialization;

the risk that we may be unable to identify potential strategic partners or collaborators with whom we can develop and, if approved, commercialize our products in a timely manner, if at all;

the risk that we or our strategic partners or collaborators will not be able to attract or maintain qualified personnel;

the risk that, if approved, market conditions, the competitive landscape or other factors may make it difficult to compete against competitive products and/or entities;

the risk that we may not be able to raise additional capital or enter into strategic alliances or collaboration agreements (including strategic alliances for development, licensing or commercialization of our drug products);

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the risk that recurring losses, negative cash flows and the inability to raise additional capital could threaten our ability to continue as a going concern;

the risks that we may be unable to obtain patents related to our products and/or uses thereof;

the risks that we may be unable to maintain and protect the patents and licenses related to our products and that other companies may develop competing therapies and/or technologies;

the risk that we may become involved in securities, product liability and other litigation;

risks related to reimbursement and health care reform that may adversely affect us; and

other risks and uncertainties detailed in the section entitled “Risk Factors” elsewhere in this prospectus.

Pharmaceutical and biotechnology companies have suffered significant setbacks in advanced clinical trials, even after obtaining promising earlier trial results. Data obtained from such clinical trials are susceptible to varying interpretations, which could delay, limit or prevent regulatory approval. After gaining approval of a drug product, pharmaceutical companies face considerable challenges in marketing and distributing their products, and may never become profitable.

The forward-looking statements contained in this prospectus speak only as of their respective dates. Factors or events that could cause our actual results to differ may emerge from time to time and it is not possible for us to predict them all. Except to the extent required by applicable laws, rules or regulations, we do not undertake any obligation to publicly update any forward-looking statements or to publicly announce revisions to any of the forward-looking statements, whether as a result of new information, future events or otherwise. You should, however, review additional disclosures we make in our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K filed with the SEC.

use of proceeds

We estimate that the net proceeds to us from the sale of the shares of our common stock in this offering at an estimated offering price of $ will be approximately $, after deducting the underwriting discount and estimated offering expenses payable by us. If the underwriters exercise their over-allotment option to purchase additional shares of our common stock, we estimate that the net proceeds to us will be approximately $, after deducting the underwriting discount and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering for general corporate purposes, including working capital, operating expenses and capital expenditures. We anticipate making capital expenditures in 2014 of approximately $125,000 to $175,000, and we may use a portion of the net proceeds to fund our anticipated capital expenditures. We also may use a portion of the net proceeds to acquire businesses, products, services or technologies. However, we do not have any agreements or commitments for any acquisitions at this time. We cannot specify with certainty the particular uses of net proceeds that we will receive from this offering. Accordingly, we will have broad discretion in using these proceeds. Pending the use of proceeds from this offering as described above, we plan to invest the net proceeds that we receive from this offering in short-term, interest bearing investments.

CAPITALIZATION

The following table sets forth our cash, cash equivalents and capitalization, as of December 31, 2013, as follows:

- on an actual basis;
- on a pro forma as adjusted basis, giving effect to the sale and issuance by us of shares of our common stock in this offering at an assumed public offering price of $ per share, after deducting the underwriting discount and estimated offering expenses payable by us.

The pro forma as adjusted information set forth below is illustrative only and will be adjusted based on the actual public offering price and other terms of this offering determined at pricing. You should read this information together with our consolidated financial statements and related notes that are included elsewhere in this prospectus.

	As of December 31, 2013	
	Actual	**Pro Forma as Adjusted[(1)]**
Cash, cash equivalents and short-term investments	$266,210	$
2.5% Senior secured convertible notes, net of discount	$753,256	$
Stockholders' equity (deficit):		
Preferred stock, par value $0.0001 per share: 10,000,000 shares authorized; none issued and outstanding, actual or pro forma as adjusted	---	---
Common stock, par value $0.0001 per share: 100,000,000 shares authorized, 41,584,020 shares issued and outstanding, actual; shares issued and outstanding, pro forma as adjusted	4,147	
Additional paid-in capital	19,522,643	
Deficit accumulated during the development stage	(22,029,794)	
Total stockholders' equity (deficiency)	(2,503,004)	
Total capitalization	$(1,749,748)	$

(1)

Each $1.00 increase or decrease in the assumed public offering price of our common stock of $ per share would increase or decrease, as applicable, the amount of our pro forma as adjusted cash and cash equivalents, additional paid-in capital, total stockholders' equity and total capitalization by approximately $, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the underwriting discount and estimated offering expenses payable by us.

In the table above, the number of shares outstanding after this offering is based on shares of our common stock outstanding as of March 17, 2014. The number of shares of our common stock outstanding after this offering excludes the following:

- 13,083,935 shares of our common stock issuable upon the exercise of common stock purchase warrants outstanding as of March 17, 2014, with a weighted average exercise price of approximately $0.45 per share;

- 5,689,498 shares of our common stock issuable upon the exercise of stock options outstanding as of March 17, 2014, with an exercise price of approximately $0.83 per share;

- 15,870,296 shares of our common stock (including 2,071,396 shares accounting for accrued interest through maturity) issuable upon the conversion of convertible promissory notes outstanding as of March 17, 2014, at an average conversion price of approximately $0.25;

- 3,022,964 additional shares of common stock reserved for issuance under our 2010 Stock Incentive Plan, as of March 17, 2014; and

- any shares issued upon the exercise by the underwriters of the option to purchase up to additional shares of common stock from us to cover over-allotments, if any.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted to the extent of the difference between the public offering price per share of our common stock in this offering and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering. Net tangible book value dilution per share to new investors represents the difference between the amount per share paid by purchasers of shares of our common stock in this offering and the pro forma as adjusted net tangible book value per share of our common stock immediately after completion of this offering.

Net tangible book value per share is determined by dividing our total tangible assets less our total liabilities by the number of shares of our common stock outstanding. Our historical net tangible deficit as of December 31, 2013 was approximately $2,503,004, or $0.06 per share, based on shares of our common stock outstanding on that date.

After giving effect to the sale by us of shares of our common stock in this offering at an assumed public offering price of $ per share, and after deducting the underwriting discount and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of December 31, 2013 would have been approximately $, or $ per share. This represents an immediate increase in pro forma net tangible book value of $ per share to our existing stockholders and an immediate dilution of $ per share to new investors participating in this offering at the assumed offering price. The following table illustrates this dilution:

Assumed public offering price per share		$
Net tangible book value (deficit) per share as of December 31, 2013, before this offering	$(2,503,004)	
Increase in pro forma net tangible book value (deficit) per share attributable to new investors in this offering	$	
Pro forma as adjusted net tangible book value (deficit) per share as of December 31, 2013, immediately after this offering		$
Dilution in pro forma net tangible book value per share to new investors in this offering		$

The information above is as of December 31, 2013 and excludes the following:

13,083,935 shares of our common stock issuable upon the exercise of common stock purchase warrants outstanding as of March 17, 2014, with a weighted average exercise price of approximately $0.45 per share;

5,689,498 shares of our common stock issuable upon the exercise of stock options outstanding as of March 17, 2014, with an exercise price of approximately $0.83 per share;

15,870,296 shares of our common stock (including 2,071,396 shares accounting for accrued interest through maturity) issuable upon the conversion of convertible promissory notes outstanding as of March 17, 2014, at a conversion price of approximately $0.25; and

3,022,964 additional shares of common stock reserved for issuance under our 2010 Stock Incentive Plan, as of March 17, 2014.

The information above assumes that the underwriters do not exercise their over-allotment option. If the underwriters exercise their over-allotment option in full, our pro forma as adjusted net tangible book value (deficit) per share would be $ per share, representing an immediate increase in pro forma net tangible book value of $ per share to our existing stockholders and an immediate dilution of $ per share to new investors. If any shares are issued upon exercise of outstanding options, warrants or convertible notes, new investors will experience further dilution.

A $1.00 increase or decrease in the assumed public offering price of $ per share would increase or decrease, as applicable, our pro forma as adjusted net tangible book value (deficit) per share after this offering by approximately $, and would increase or decrease, as applicable, dilution per share to new investors in this offering by approximately $ for an increase of $1.00, or $ for a decrease of $1.00, after deducting the underwriting discount and estimated offering expenses payable by us.

**Market PRICE OF OUR Common STOCK and
Related Stockholder Matters**

Our common stock is quoted on the OTCQB under the symbol “AHRO.” We intend to apply to have our shares of common stock listed on the NYSE MKT under the same symbol, “AHRO”. The following table sets forth, for the periods indicated, the high and low bid information for our common stock, as determined from sporadic quotations on the OTCQB. The following quotations reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not represent actual transactions.

	High	Low
Year Ended December 31, 2012		
First Quarter	$1.32	$0.84
Second Quarter	$1.07	$0.45
Third Quarter	$0.97	$0.50
Fourth Quarter	$0.85	$0.44
Year Ended December 31, 2013		
First Quarter	$0.80	$0.35
Second Quarter	$0.79	$0.50
Third Quarter	$0.74	$0.51
Fourth Quarter	$0.57	$0.35
Year Ended December 31, 2014		
First Quarter (as of March 14, 2014)	$0.55	$0.35

On March 14, 2014, the closing sales price of our common stock as reported on the OTCQB was $0.38 per share. As of March 14, 2014, there were approximately 160 record holders of our common stock, excluding shareholders for whom shares are held in “nominee” or “street name.”

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our board of directors, subject to applicable laws, and will depend on a number of factors, including our financial condition, results of operations, capital requirements, contractual restrictions, general business conditions and other factors that our board of directors may deem relevant.

Under the terms and conditions of the notes issued by us in 2010 and 2012, we cannot declare or pay any cash dividends for as long as there remains an outstanding and unpaid balance on these notes. A declaration or payment of any dividend would be a covenant violation of the notes whose remedy may include making the entire balance of the outstanding principal and accrued interest immediately due and payable.

**management's discussion and analysis of
financial condition and results of operations**

This discussion summarizes the significant factors affecting our operating results, financial condition and liquidity and cash flows for the periods ended December 31, 2013 and 2012. The discussion and analysis that follows should be read together with the consolidated financial statements and the notes to the consolidated financial statements included elsewhere in this prospectus. Management's Discussion and Analysis of Financial Condition and Results Of Operations is provided as a supplement to the accompanying consolidated financial statements and notes thereto to help provide an understanding of our financial condition, the changes in our financial condition and our results of operations. Except for historical information, the matters discussed in this Management's Discussion and Analysis of Financial Condition and Results of Operations are forward looking statements that involve risks and uncertainties and are based upon judgments concerning various factors that are beyond our control. Our actual results could differ materially from the results anticipated in any forward-looking statements as a result of a variety of factors, including those discussed in the section entitled "Risk Factors" elsewhere in this prospectus.

Overview

Z&Z Medical Holdings, Inc. ("Z&Z Nevada") was incorporated in the State of Nevada on December 13, 2006 with contributed intellectual property from its founders. Z&Z Nevada was engaged in developing the contributed intellectual property while seeking sources of funding to conduct further research and development. In November 2009 Z&Z Nevada incorporated Z&Z Delaware and merged Z&Z Nevada into Z&Z Delaware in March 2010. On March 26, 2010 we entered into a merger agreement with Z&Z Merger Corporation, our wholly-owned subsidiary and Z&Z Delaware, and on May 13, 2010, Z&Z Merger Corporation merged into Z&Z Delaware with Z&Z Delaware surviving as our operating subsidiary. Concurrent with the Merger, Z&Z Delaware changed its name to AtheroNova Operations, Inc. and we changed our name from Trist Holdings, Inc. to AtheroNova Inc. The business of AtheroNova Operations, pharmaceuticals and pharmaceutical intellectual property, became our business upon consummation of the Merger.

We have developed intellectual property, covered by our issued and pending patent applications, which uses certain pharmacological compounds for the treatment of atherosclerosis, which is the primary cause of cardiovascular diseases. Atherosclerosis occurs when cholesterol of fats are deposited and form as plaques on the walls of the arteries. This buildup reduces the space within the arteries through which blood can flow. The plaque can also rupture, greatly restricting or blocking blood flow altogether. Through a process called reverse cholesterol transport, such compounds dissolve the plaques so they can be eliminated through normal body processes and avoid such rupturing or restriction of blood flow. Such compounds may be used both to treat and prevent atherosclerosis.

In the near future, we plan to continue studies and trials to demonstrate the efficacy of our IP. Ultimately, we plan to use or license our technology to various licensees throughout the world who may use it in treating or preventing atherosclerosis and other medical conditions or sublicense the IP to other such users. Our potential licensees may also produce, market or distribute products which utilize or add our compounds and technology in such treatment or prevention.

General

Operating expenses consist primarily of payroll and related costs and corporate infrastructure costs. We expect that our operating expenses will increase as we continue executing our business plan, in addition to the added costs of operating as a public company.

Historically, we have funded our working capital needs primarily through the sale of shares of our capital stock and debt financing.

The Merger was accounted for as a reverse merger (recapitalization) with AtheroNova Operations deemed to be the accounting acquirer, and our Company deemed to be the legal acquirer. Accordingly, the following discussing represents a discussion of the operations of our wholly-owned subsidiary, AtheroNova Operations for the periods presented.

Results of Operations

Year ended December 31, 2013 Compared to the year ended December 31, 2012

	Years ended December 31,		**Increase**
	2013	**2012**	**(decrease)**
Costs and expenses:			
Share-based compensation	2,369,009	--	2,369,009
Other research and development expenses	2,030,285	986,261	1,044,024
Total research and development expenses	**4,399,294**	**986,261**	**3,413,033**
General and administrative:			
Share-based compensation	1,359,579	1,182,920	176,659
Other general and administrative expenses	1,455,277	1,468,805	(13,528)

Total general and administrative expenses	**2,814,856**	**2,651,725**	**163,131**
Other (income) expense:			
Interest expense	601,664	871,431	(269,767)
Cost to induce conversion of 12% notes	--	866,083	(866,083)
Change in fair value of derivative liabilities	--	(2,640,497)	2,640,497
Gain on extinguishment of derivative liability	--	(97,975)	97,975
Other (income)/expense	(1,092)	(1,467)	375
Total other (income) expense	**(600,572)**	**(1,002,425)**	**1,602,997**
Net loss	**$(7,814,722)**	**$(2,635,561)**	**$5,179,161**

During the years ended December 31, 2013 and 2012, we did not recognize any revenues. We are considered a development stage company and do not expect to have revenues relating to our products in the foreseeable future, if at all.

For the twelve months ended December 31, 2013, research and development expenses increased to $4,399,294 from $986,261 in the same period in 2012. This is due to significant increases in spending in 2013 for Phase 1 clinical trial drug product, consultants and employees added to oversee our clinical trial programs as well as expenses recognized with the issuance of common stock upon achievement of two milestones and accrual based upon the probability of another milestone as of December 31, 2013 pursuant to the CardioNova clinical trial program. The expenses in the period ended December 31, 2012 included purchase of active pharmaceutical ingredient, formulation development and additional pre-clinical research as reported in that that period.

General and administrative costs increased by $163,131, to $2,814,856, in 2013 compared to $2,651,725 for 2012 due to slight increases in travel, lodging and professional fees due to increased activity with CardioNova and increased participation in financial and investor conferences during the current year We incurred non-cash stock-based compensation expense of $878,179 for our officers, directors and consultants in 2013, compared to $1,182,920 for the same provision of services in 2012. Also recognized in 2013 was $422,500 for below market purchases by directors and $58,900 for the cost of shares gifted to officers, both from a controlling stockholder of the Company.

For the year ended December 31, 2013, interest expense was $601,664 compared to $871,431 for the year ended December 31, 2012. The decrease in interest expense was due to the recognition of unamortized discounts on a larger balance of converted notes in 2012 when compared to 2013. The period ended December 31, 2012 also recognized amortization expense on the short term convertible notes issued and matured in 2012 with no comparable activity in the current year.

For the twelve months ended December 31, 2012, cost to induce conversion of 12% notes was $866,083. These costs related to the expensing of the Beneficial Conversion Feature recorded on the 12% convertible notes upon conversion in 2012 as well as the fair value of warrants issued to the holders of our short-term convertible notes as inducement to convert the notes in October 2012. There was no comparable expense in 2013.

For the year ended December 31, 2012, there was a gain of $2,640,497 recorded for the change in fair value of derivative liabilities during the period. There was no comparable gain in the same period of 2013.

For the year ended December 31, 2012, gain on extinguishment of derivative liability was $97,975 compared to $0 for the comparable period in 2013. This gain is due to the extinguishment of a portion of the derivative liability due to the partial conversion of the Convertible Notes during the prior year period with no corresponding gain in the current year.

Net loss for the year ended December 31, 2013, was $7,814,722 compared to a loss of $2,635,561 for the year ended December 31, 2012. The increased net loss is due to the increased spending as the company increases its research and development activities, recognition of expenses of research and development expenses paid or to be paid by issuance of our common stock and the corresponding consultants and employee expenses for staffing to monitor and conduct our clinical research. Additionally, there were no gains associated with revaluation or extinguishing derivative liabilities as were recorded in fiscal year 2012.

Liquidity and Capital Resources

As of December 31,2013, we had stockholders' deficit of $2,503,004. From inception to December 31, 2013, we incurred a deficit during the development stage of $22,029,794 primarily due to the non-cash costs relating to the valuation of our Note and Warrant issuances accounted for as a derivative liability and from our net operating losses. We expect to continue to incur additional losses for at least the next twelve months and for the foreseeable future. These losses have been incurred through a combination of research and development activities as well as patent work related to our technology, expenses related to the Merger and to public reporting obligations and the costs to supporting all of these activities.

We have financed our operations since inception primarily through equity and debt financings. During the twelve months ended December 31, 2013, we had a net decrease in cash and cash equivalents of $2,477,836. This decrease resulted largely from net cash provided by financing activities of $787,048, offset by net cash used in operating activities of $3,261,824. Total cash as of December 31, 2013 was $266,210 compared to $2,744,046 at December 31, 2012.

As of December 31, 2013, we had working capital deficit of $989,341 compared to working capital of $2,121,023 at December 31, 2012. We have reported net losses of $7,814,722 and $2,635,561 for the years ended December 31, 2013 and 2012, respectively. The net loss attributable from date of inception, December 13, 2006 to December 31 2013, amounts to $22,029,794. Management believes that we will continue to incur net losses through at least December 31, 2014.

These matters raise substantial doubt about our ability to continue as a going concern. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Our available working capital and capital requirements will depend upon numerous factors, including progress of our research and development programs, our progress in and the cost of ongoing and planned nonclinical and clinical testing, the timing and cost of obtaining regulatory approvals, the cost of filing, prosecuting, defending, and enforcing patent claims and other intellectual property rights, in-licensing activities, competing technological and market developments, the resources that we devote to developing manufacturing and commercializing capabilities, the status of our competitors, our ability to establish collaborative arrangements with other organizations and our need to purchase additional capital equipment.

Our continued operations will depend on whether we are able to raise additional funds through various potential sources, such as equity and debt financing, other collaborative agreements, strategic alliances, and our ability to realize the full potential of our technology in development. Such additional funds may not become available on acceptable terms and there can be no assurance that any additional funding that we do obtain will be sufficient to meet our needs in the long term. Through December 31, 2013, a significant portion of our financing has been through private placements of common stock and warrants and debt financing. Unless our operations generate significant revenues and cash flows from operating activities, we will continue to fund operations from cash on hand and through the similar sources of capital previously described. We can give no assurances that any additional capital that we are able to obtain will be sufficient to meet our needs. We believe that we will continue to incur net losses and negative cash flows from operating activities for the foreseeable future.

Based on our resources available at December 31, 2013, plus the gross proceeds of the 6% Secured Note financing completed in February 2014, which provided gross cash proceeds of $1,906,500, management believes that we have sufficient capital to fund our operations through April of 2014. Management believes that we will need additional equity or debt financing, or to generate revenues through licensing of our products or entering into strategic alliances

as well as reduce and defer expenses where possible to be able to sustain our operations further into 2014. Furthermore, we will need additional financing thereafter to complete development and commercialization of our intellectual property. There can be no assurances that we can successfully complete development and commercialization of our intellectual property.

2.5% Senior Secured Convertible Notes Payable

On May 13, 2010, we entered into a Securities Purchase Agreement with W-Net Fund I, L.P. (“W-Net”), Europa International, Inc. (“Europa”) and MKM Opportunity Master Fund, Ltd. (“MKM” and together with W-Net and Europa, the “Purchasers”), pursuant to which the Purchasers, on May 13, 2010, purchased from us (i) 2.5% Senior Secured Convertible Notes for a cash purchase price of $1,500,000 (the “Original Notes”), and (ii) Common Stock Purchase Warrants pursuant to which the Purchasers may purchase up to 1,908,798 shares of our common stock at an exercise price equal to approximately $0.39 per share (the “Capital Raise Transaction”). A portion of the proceeds from the Capital Raise Transaction were used to pay $250,000 owed by us to the two principal holders of our common stock, W-Net and Europa, and to reimburse them for legal and accounting fees and other expenses incurred by them and our Company in connection with the Merger and the Capital Raise Transaction. The net proceeds available to us for our operations were reduced by such payments.

The Original Notes accrued 2.5% interest per annum with a maturity of 4 years after the closing of the Capital Raise Transaction. No cash interest payments were required, except that accrued and unconverted interest is due on the maturity date and on each conversion date with respect to the principal amount being converted, provided that such interest may be added to and included with the principal amount being converted. If there is an uncured event of default (as defined in the Original Notes), of which one event of default would be the departure of Thomas Gardner without us obtaining a suitable full-time replacement within 90 days of such departure, the holder of each Original Note may declare the entire principal and accrued interest amount immediately due and payable. Default interest will accrue after an event of default at an annual rate of 12%. If there is an acceleration, a mandatory default amount equal to 120% of the unpaid Original Note principal plus accrued interest may be payable.

The warrants may be exercised on a cashless basis under which a portion of the shares subject to the exercise are not issued in payment of the purchase price, based on the then fair market value of the shares.

On May 13, 2010, we also entered into a Security Agreement and an Intellectual Property Security Agreement with the Purchasers and AtheroNova Operations, pursuant to which all of our obligations under the Original Notes are secured by first priority security interests in all of our assets and the assets of AtheroNova Operations, including intellectual property. Upon an event of default under the Original Notes or such agreements, the Original Note holders may be entitled to foreclose on any of such assets or exercise other rights available to a secured creditor under California and Delaware law. In addition, under a Subsidiary Guarantee, AtheroNova Operations will guarantee all of our obligations under the Original Notes.

The Original Notes and warrants issued in connection therewith included an anti-dilution provision that allowed for the automatic reset of the conversion or exercise price upon any future sale of common stock instruments at or below the current conversion or exercise price.

On July 6, 2011, we entered into the First Amendment and Exchange Agreement with each of W-Net, Europa and MKM pursuant to which the Purchasers agreed to exchange the Original Notes for the Amended and Restated 2.5% Senior Secured Convertible Notes (the "Amended Notes"). The Amended Notes had the same terms as the Original Notes (as described above), except that each Amended Note is convertible at any time into common stock at a per share conversion price of $0.29, subject to adjustment.

On June 15, 2012, we entered into the Second Amendment and Exchange Agreement with each W-Net, Europa and MKM pursuant to which the Purchasers agreed to exchange the Amended Notes for Second Amended and Restated 2.5% Senior Secured Convertible Notes (the "Second Amended Notes"). The Second Amended Notes have the same terms as the Amended Notes (as described above) except as follows: (i) each Second Amended Note has an automatic conversion provision and removal of the applicable beneficial ownership limitations effective the later of 61 days following our notice to the Purchasers of our application to list or quote our securities on a national securities exchange or the date immediately prior to the effective date of the listing or quotation of our securities on the applicable exchange; (ii) the price-based anti-dilution provisions contained in the Amended Notes have been removed; and (iii) under the Securities Purchase Agreement, as currently amended, if we met two specified operating benchmarks during the first twenty-nine months after the closing of the first Original Note purchase, an additional $1,500,000 in note purchases, substantially in the form of the Second Amended Notes (without warrants), could be requested by us from the Purchasers. The determination of whether we had met the benchmarks was solely at the discretion of the Purchasers. If the benchmarks were determined to have been achieved, then we could have required the Purchasers to make the additional $1,500,000 of note purchases. If such benchmarks were not attained in the 29-month period or we did not exercise the option to request the additional notes, then the Purchasers, in their discretion, during the next 10 days could elect to purchase up to $1,500,000 of notes, substantially in the form of the Second Amended Notes (without warrants), having an initial conversion price which is 100% of the conversion price in the Second Amended Notes. On July 23, 2012 the Purchasers notified us of their intention of putting the additional $1,500,000 in notes in 3 tranches. The first $500,000 was put to us and we issued notes (substantially in the form of the Second Amended Notes) (the "Additional Notes" and together with the Original Notes, the Amended Notes and the Second Amended Notes, the "Senior Notes") on September 4, 2012. These Additional Notes mature on September 3, 2016. The second tranche of $498,333 was put to us and we issued Additional Notes on October 1, 2012. These Additional Notes mature on September 30, 2016. The final tranche of $500,000 was put to us and we issued Additional Notes on October 31, 2012. These Additional Notes mature on October 30, 2016. In addition, the 1,908,798 warrants to purchase shares of our common stock issued in conjunction with the Original Notes were also amended to remove the reset provision in the warrants' exercise price. All other existing terms of such warrants did not change.

From issuance through December 31, 2012, the Purchasers exercised their option to convert a portion of the Senior Notes into our common stock. During the year ended December 31, 2010, principal in the amount of $98,049 and accrued interest in the amount of $965 was converted at a per share price of approximately $0.39 into 249,488 and 2,456 shares, respectively, of our common stock. During the year ended December 31, 2011, principal on the amount of $446,600 was converted at a per share price of $0.29 into 1,540,000 shares of our common stock. In addition, we also issued 45,164 shares of our common stock with a market value of $27,098 to settle $13,098 of accrued interest relating to the Senior Notes. The issuance of these common shares resulted in an additional charge of $14,000 that has been reflected as a financing cost in the 2011 statement of operations. During the year ended December 31, 2012, principal on the amount of $690,851 was converted at a per share price of $0.29 into 2,382,245 shares of our common stock. In addition, we also issued 111,474 shares of our common stock with a market value of $72,278 to settle $32,401 of accrued interest relating to these notes. The issuance of these common shares resulted in an additional charge of $39,877 that has been reflected as an additional expense in the 2012 statement of operations. During the year ended December 31, 2013, principal on the amount of $165,000 was converted at a per share price of $0.29 into 568,965 shares of our common stock. In addition, we also issued 7,942 shares of our common stock with a market value of $4,765 to settle $2,303 of accrued interest relating to these notes. The issuance of these common shares resulted in an additional charge of $2,462 that has been reflected as an additional expense in the accompanying consolidated statement of operations. The aggregate balance of the Senior Notes outstanding as of December 31, 2013 amounted to $1,597,833.

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The Senior Notes may not be prepaid, or forced by us to be converted in connection with an acquisition of our Company, except in a limited case more than a year after the applicable note issuance where the average of our stock trading price for 30 days on a national trading market other than the OTC Bulletin Board ("OTCBB") is at least three times the conversion price, in which event, and subject to the satisfaction of certain other requirements, the Senior Note holders may elect to receive at least double the unpaid principal amounts in cash and other requirements are satisfied. In such a limited case acquisition, there could also be a forced cashless exercise of the warrants subject to similar requirements and optional cash payments to the warrant holders of at least double the exercise prices of their warrants.

The Senior Notes greatly restrict the ability of our Company or AtheroNova Operations to issue indebtedness or grant liens on our or its respective assets without the Senior Note holders' consent. They also limit and impose financial costs on our acquisition by any third party.

Each of the Original Notes, Amended Notes and warrants had, until being amended in June 2012, included an anti-dilution provision that allowed for the automatic reset of the conversion or exercise price upon any future sale of common stock instruments at or below the current conversion or exercise price. We considered the current Financial Accounting Standards Board guidance of "Determining Whether an instrument Indexed to an Entity's Own Stock" which indicates that any adjustment to the fixed amount (either conversion price or number of shares) of the instrument, regardless of the probability or whether or not within the issuers' control, means the instrument is not indexed to the issuers' own stock. Accordingly, we determined that as the conversion price of the Original Notes and Amended Notes and the strike price of the warrants may have fluctuated based on the occurrence of future offerings or events, such prices were not fixed amounts. As a result, we determined that the conversion features of the Original Notes, Amended Notes and the warrants are not considered indexed to our stock and characterized the value of the Original Notes, Amended Notes and the warrants as derivative liabilities upon issuance.

6% Secured Convertible Notes Payable

In January and February 2014, we entered into Securities Purchase Agreements with approximately 31 accredited investors (the "Purchasers"), pursuant to which the Purchasers, on February 12, 2014, purchased from us (i) 6% Secured Convertible Notes for a cash purchase price of $1,906,500 (the "6% Notes"), and (ii) Common Stock Purchase Warrants pursuant to which the Purchasers may purchase up to 4,144,568 shares of our common stock at an exercise price equal to approximately $0.23 per share (the "6% Note Placement"). The Notes have a 3 year term and are convertible into common stock at any time at the lesser of i) $0.23 per share and ii) seventy percent of the average of the three lowest daily VWAPs occurring during the 20 consecutive trading days immediately preceding the applicable conversion date. The Warrants are exercisable immediately, have a 10 year term and are exercisable at the lesser of $0.23 per share or the three lowest daily VWAPs as provided in the 6% Notes. The warrants may be exercised on a cashless basis under which a portion of the shares subject to the exercise are not issued in payment of the purchase price, based on the then fair market value of the shares.

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The 6% Notes accrue 6% interest per annum, require no cash interest payments, except that accrued and unconverted interest is due on the maturity date and on each conversion date with respect to the principal amount being converted, provided that such interest may be added to and included with the principal amount being converted. If there is an uncured event of default (as defined in the 6% Notes), the holder of each 6% Note may declare the entire principal and accrued interest amount immediately due and payable. Default interest will accrue after an event of default at an annual rate of 12%. If there is an acceleration, a mandatory default amount equal to 120% of the unpaid 6% Note principal plus accrued interest may be payable.

On February 12, 2014, we also entered into a Security Agreement and an Intellectual Property Security Agreement with the Purchasers and AtheroNova Operations, pursuant to which all of our obligations under the 6% Notes are secured by security interests in all of our assets and the assets of AtheroNova Operations, including intellectual property on a pari passu basis with the 2.5% Senior Secured Notes outstanding. Upon an event of default under the 6% Notes or such agreements, the 6% Note holders may be entitled to foreclose on any of such assets or exercise other rights available to a secured creditor under California and Delaware law. In addition, under a Subsidiary Guarantee, AtheroNova Operations will guarantee all of our obligations under the 6% Notes.

A portion of the proceeds from the 6% Notes were generated through the efforts of Philadelphia Brokerage Corporation, whereby we agreed to pay a commission of 8% of the aggregate gross proceeds in cash and 2% in the form of our common stock for placements generated by Philadelphia Brokerage Corporation. Accordingly, commissions of $68,720 and a common stock issuance of 65,351 shares were due to them at the completion of the 6% Note placement. The net proceeds available to us for our operations were reduced by the cash payment.

Commitments

Development Commitments

In October 2011, we entered into two definitive agreements with OOO CardioNova, a wholly-owned subsidiary of Maxwell Biotech Group, a Russian biotech fund, covering our AHRO-001 compound. The agreements cover a territory represented by the Russian Federation, the Ukraine and various countries in central Asia (the “Territory”).

Under the Licensing Agreement, OOO CardioNova (“CardioNova”) became an equity investor in our Company in exchange for the funding of Phase 1 and 2 human clinical trials conducted by a Clinical Research Organization (“CRO”) located in Russia. Pursuant to the agreement, a Joint Steering Committee was established between both entities and determined the final clinical protocols and the research budget of approximately $3.8 million. Upon acceptance of the development plan on April 25, 2013, 391,753 shares of common stock (10% of the research budget) were issued to CardioNova at a 20-day weighted average prior to signature of the initial term sheet, or $0.97 per share. On April 29,

2013 the Russian Ministry of Healthcare approved the protocol submitted on January 22, 2013, upon which the Joint Steering Committee had based the Phase 1 protocol. Accordingly, 1,605,408 shares of common stock were issued at the weighted 20-day average of $0.4734, representing 20% of the approved budget. As of December 31, 2013, the Company had issued 1,997,161 shares of its common stock, representing 30% of the research budget.

Additional common stock issuances of 40% and 30% of the approved budget shall be issued upon the announcement of Phase 1 results and announcement of Phase 2 results, respectively. The number of shares of common stock to be issued at each tranche will be determined at the lower of the weighted 20-day average immediately prior to each issuance event, or $0.97 per share, whichever is lower. As of December 31, 2013, the Phase 1 or Phase 2 milestones calling for additional issuance of common stock had not been achieved.

If CardioNova successfully develops and commercializes AHRO-001 in the Territory, we will be entitled to receive a quarterly royalty, based on net sales during the period using an escalating scale. The royalty agreement shall remain in force for the period in which intellectual property rights for AHRO-001 are in full force and effect in the Territory.

Under the Securities Purchase Agreement, CardioNova purchased a total of 275,258 shares of our common stock for a cash purchase price of $0.97 per share, which took place in two installments. The first installment, which took place on December 22, 2011, was for the issuance of 154,639 shares upon receipt of $150,000 as specified in the Licensing Agreement. The second installment of 120,619 shares took place on June 14, 2013 upon delivery of final clinical product to be used in Phase 1 clinical trials.

Research and Development Projects

We have a research agreement signed in September 2012, amended in April 2013 and again in September 2013, with a major university in Southern California to conduct contract research in additional compounds covered under our pending patents. This agreement calls for payment of all research costs relating to the study of dosage and efficacy of bile salts on the atherosclerotic plaque in a non-human model. The total potential cost of the amended project is $236,323, to be paid in four installments over the estimated one year length of the study. As of December 31, 2013, $236,323 has been expensed, of which $120,327 has been recorded as part of Research and development costs on the statement of operations for the year ended December 31, 2013. The final report on this research project was received in early 2014.

The Company has multiple testing agreements signed in September 2012 and August 2013 for testing of the oral toxicity of AHRO-001 in non-human models. Each agreement can be terminated anytime and there are no commitments or guarantees other than to reimburse costs incurred prior to termination.

The study initiated in September 2012, with a cost of approximately $510,000, has completed active phase of testing and is in the data write-up stage of the project. The process is ongoing and to date, $488,530 has been expensed, of which $389,785 has been recorded as part of research and Development costs on the statement of operations for the year ended December 31, 2013.

The studies authorized in August 2013, with a cost of approximately $224,600, have both completed the active phase of testing and are in the initial data analysis stage of the projects. The process is ongoing and to date, $175,950 has been expensed, all of which has been recorded as part of Research and development costs on the statement of operations for the period ended December 31, 2013.

Off-Balance Sheet Arrangements

We have not entered into any off-balance sheet arrangements.

Critical Accounting Policies

In December 2001, the SEC requested that all registrants discuss their most "critical accounting policies" in management's discussion and analysis of financial condition and results of operations. The SEC indicated that a "critical accounting policy" is one which is both important to the portrayal of the Company's financial condition and results and requires management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. On an ongoing basis, management evaluates its estimates and judgment, including those related to revenue recognition, accrued expenses, financing operations and contingencies and litigation. Management bases its estimates and judgment on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results could differ from those estimates under different assumptions or conditions. The following represents a summary of our critical accounting policies.

Research and Development Expenses

Research and development costs are expensed as incurred and include costs of consultants and contract research facilities who conduct research and development on our behalf and on behalf of AtheroNova Operations. We have contracted with third parties to facilitate, coordinate and perform agreed upon research and development of our technology. We have expensed all costs associated with the conduct of the laboratory research as well as the costs associated with peripheral clinical researchers as period costs.

Accounting for Share Based Research and Development Costs

Under its Research and Development (R&D) agreements, the Company is obligated to issue shares of common stock if milestones are met by the R&D vendor. It is the Company's policy to recognize expense for these shares when it is estimated that there is a high probability of meeting the milestone. The Company accrues the share based expense based upon the estimated percentage of completion of the milestone. The shares are valued at the market price at the end of the period and revalued at each period until issued. At December 31, 2013, approximately 3 million shares of common stock are to be issued pursuant to the agreement with a fair value of $1,170,712. The liability was recorded as part of Research and Development costs - payable in stock in the accompanying balance sheet below long term liabilities as it is only payable in shares of common stock.

Stock-Based Compensation

We periodically issue stock options and warrants to employees and non-employees in non-capital raising transactions for services and for financing costs. We account for stock option and warrant grants issued and vesting to employees based on current accounting guidance, whereby the award is measured at its fair value at the date of grant and is amortized ratably over the vesting period. We account for stock option and warrant grants issued and vesting to non-employees based on current accounting guidance, whereby the fair value of the stock compensation is based on the measurement date as determined at either (a) the date at which a performance commitment is reached, or (b) at the date at which the necessary performance to earn the equity instrument is complete.

We estimate the fair value of stock options using the Black-Scholes-Merton option-pricing model, which was developed for use in estimating the fair value of options that have no vesting restrictions and are fully transferable. This model requires the input of subjective assumptions, including the expected price volatility of the underlying stock and the expected life of stock options. Projected data related to the expected volatility of stock options is based on the historical volatility of the trading prices of our common stock and the expected life of stock options is based upon the average term and vesting schedules of the options. Changes in these subjective assumptions can materially affect the fair value of the estimate, and therefore the existing valuation models do not provide a precise measure of the fair value of our employee stock options.

Derivative Financial Instruments

We evaluate our financial instruments to determine if such instruments are derivatives or contain features that qualify as embedded derivatives. For derivative financial instruments that are accounted for as liabilities, the derivative instrument is initially recorded at its fair value and is then re-valued at each reporting date, with changes in the fair value reported in the consolidated statements of operations. For stock-based derivative financial instruments, we use both the Black-Scholes-Merton and Binomial option pricing models to value the derivative instruments at inception and on subsequent valuation dates. The classification of derivative instruments, including whether such instruments should be recorded as liabilities or as equity, is evaluated at the end of each reporting period. Derivative instrument liabilities are classified in the balance sheet as current or non-current based on whether or not net-cash settlement of the derivative instrument could be required within 12 months of the balance sheet date.

Recently Issued Accounting Standards

In January 2013, the FASB issued Accounting Standard Update (“ASU”) 2013-01, Balance Sheet (Topic 210): Clarifying the Scope of Disclosures about Offsetting Assets and Liabilities. This ASU clarifies which instruments and transactions are subject to the offsetting disclosure requirements established by ASU 2011-11. This guidance is

effective for annual and interim reporting periods beginning January 1, 2013. The Company does not believe the adoption of this update will have a material effect on its financial position and results of operations.

On March 4, 2013, the FASB issued ASU 2013-05, “Foreign Currency Matters (Topic 830): Parent’s Accounting for the Cumulative Translation Adjustment upon Derecognition of Certain Subsidiaries or Groups of Assets within a Foreign Entity or of an Investment in a Foreign Entity” (“ASU 2013-05”). ASU 2013-05 updates accounting guidance related to the application of consolidation guidance and foreign currency matters. This guidance resolves the diversity in practice about what guidance applies to the release of the cumulative translation adjustment into net income. This guidance is effective for interim and annual periods beginning after December 15, 2013. The Company does not believe the adoption of this update will have a material effect on its financial position and results of operations.

In July 2013, the FASB issued ASU No. 2013-11, Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Loss, or a Tax Credit Carryforward Exists. Topic 740, Income Taxes, does not include explicit guidance on the financial statement presented of an unrecognized tax benefit when a net operating loss carryforward, a similar tax loss, or a tax credit carryforward exists. There is diversity in practice in the presentation of unrecognized tax benefits in those instances and the amendments in this update are intended to eliminate that diversity in practice. The amendments are effective for fiscal years, and interim periods within those years, beginning after December 15, 2013. The amendments should be applied prospectively to all unrecognized tax benefits that exist at the effective date. Early adoption is permitted. The Company does not believe the adoption of this update will have a material effect on its financial position and results of operations.

Other accounting pronouncements did not or are not believed by management to have a material impact on the Company’s present or future consolidated financial statements.

business

Corporate History

We are a Delaware corporation, with our principal offices located at 2301 Dupont Drive, Suite 525, Irvine, California. We were incorporated in Delaware in 1997. Our telephone number is (949) 476-1100 and our website address is www.atheronova.com.

On March 26, 2010, we entered into an Agreement and Plan of Merger with Z&Z Merger Corporation, a Delaware corporation and our wholly-owned subsidiary ("MergerCo"), and AtheroNova Operations, Inc., a Delaware corporation then known as Z&Z Medical Holdings, Inc. ("Z&Z Delaware"). At the closing of the merger on May 13, 2010, (i) MergerCo was merged with and into Z&Z Delaware (the "Merger"), whose name was concurrently changed to AtheroNova Operations, Inc. ("AtheroNova Operations"); (ii) Z&Z Delaware, as AtheroNova Operations, become our wholly-owned subsidiary; (iii) all of AtheroNova Operations' shares, warrants and options outstanding prior to the Merger were exchanged (or assumed, in the case of warrants and options) for comparable securities of our company; and (iv) approximately 98% of our fully-diluted shares (excluding the shares issuable in the Capital Raise Transaction described below) were owned by AtheroNova Operations' former stockholders, warrant holders and option holders.

As a result of the Merger we are solely engaged in AtheroNova Operations' business, AtheroNova Operations' officers became our officers and three of AtheroNova Operations' directors became members of our seven-member board of directors. Unless the context otherwise requires, all references to "we," "our," and the "Company" refer to AtheroNova Inc. and its wholly-owned subsidiary AtheroNova Operations, Inc.

Business Overview

We have developed intellectual property ("IP"), covered by our pending patent applications, which uses certain pharmacological compounds for the treatment of atherosclerosis, which is the primary cause of various cardiovascular diseases. Atherosclerosis occurs when cholesterol or fats are deposited on arterial walls and form as plaques. Such deposits are theorized as occurring due to weaknesses or imperfections in the arterial walls. Another theory is that these plaques develop at the site of arterial inflammations. Once the plaque has lodged on or in the arterial wall, additional deposits can build up due to the existence of areas of resistance in the path of blood flow from the walls of arteries. Such accumulations are known as atheromas. These atheromas can form a protective barrier known as a "fibrous cap." These fibrous caps are thought to be the result of inflammation of the arterial wall from the formation of the deposit. The fibrous cap is a porous fiber which is an attempt to stabilize the deposit and prevent it from suddenly breaking loose. In some instances, the plaque still can rupture and greatly restrict or block altogether blood flow, resulting in such cardiac events as heart attack or stroke. Even if the plaque remains stable, it can lead to reduction of

the space within the arteries through which blood can flow and cause such diseases as Peripheral Artery Disease, Erectile Dysfunction, Kidney failure, Macular Degeneration and Hypertension. There is also some evidence that Cognitive Impairment is also a manifestation of reduced blood supply to the brain.

Cholesterol deposits or “plaque” accumulate over the lifetime of an individual based on factors such as diet, heredity and other blood chemistry factors. The building block of the plaque accumulations is the amount of Low-density lipoprotein cholesterol, or “LDL,” contained in the blood circulating is a person’s body. The accepted medical opinion is that a higher LDL reading in a person’s blood chemistry can lead to plaque accumulations in the arteries. High-density-lipoprotein cholesterol, or “HDL,” is considered the “good” cholesterol and can assist in transporting the LDL out of the bloodstream to the digestive system and elimination from the body. Many different factors play into how much of each of these cholesterols make their way into the bloodstream and lead to possible plaque deposits. The general accepted thinking in the medical community is that the plaque allowed to form and accumulate in the arteries will remain in the arteries indefinitely. Diet and exercise are the two most common factors cited by medical professionals in controlling the balance of HDL and LDL in hopes of minimizing the amount of plaque accumulation during a person’s lifetime.

This accumulated plaque has not been addressed by any current medical and drug technology, although many approaches and concepts have been tried. The most effective measure to date in the fight to prevent atherosclerosis has been the development of statin drugs. Statins work on the body’s ability to simultaneously decrease the LDL and increase the HDL in a patient’s blood. One of the drawbacks of statin drugs has been the tolerability of the drugs, both in the dosage prescribed as well as the long term exposure. Some liver functions must be tested on a periodic basis to insure that a patient’s liver is functioning normally.

Until several years ago the general belief was that a patient who exhibited the genetic, dietetic or disease characteristics prone to accumulations of plaque should be put on a course of lifestyle and diet changes in hopes of controlling blood cholesterol levels. If such changes did not lower cholesterol levels, then one of the statin drugs in the varying acceptable dose levels would be introduced with an expectation that once a patient was started on a statin drug, they would be a patient for life. Such prescription characteristics have made statin drugs the most successful drug family in the history of medicine.

Currently we have developed and contracted to have manufactured the Active Pharmaceutical Ingredient (“API”), AHRO-001, needed to conduct toxicology studies and Phase 1 and 2 human clinical trials. Through an agreement completed in 2011, we have partnered with a Russian venture fund for the development of AHRO-001 for their Territory including utilizing contract research organizations to conduct Phase 1 and 2 clinical trials in Russia. This partnership will help demonstrate the efficacy our API as first demonstrated in our pre-clinical studies conducted in 2009, 2010 and 2011. As the active drug in our research and clinical work, our API uses naturally occurring bile acids normally found in a non-human digestive tract to activate genetic signaling mechanisms to act on the portions of the soft, vulnerable plaque that are accessible through the fibrous cap. This process breaks down plaque deposits into molecules small enough to pass safely through the fibrous cap without causing harm to the fibrous cap itself. The body then processes the cholesterol through the liver in the normal process of cholesterol metabolism. Additionally, our API also demonstrated an effect of lipid panel improvements of the test subjects during the active treatment phase of our pre-clinical studies. The research conducted in pre-clinical studies demonstrated the ability of bile salts to dissolve, or regress, a statistically significant portion of the atheromas induced in test subjects in a safe and effective manner in non-human subjects as well as improving lipid panel scores. Finally, our compound reduced the amount of intestinal cholesterol absorption in a similar fashion to ezetimibe. At the conclusion of these non-human studies, we determined that the results showed a superior regression model effective enough to take the next step in the

development of the API for introduction into human clinical trials. A pre-Investigational New Drug meeting with the United States Food and Drug Administration ("FDA") in October 2011, established the necessary protocols and study designs for our Phase 1 and 2 clinical trials. If our premise is confirmed, then this would introduce the first clinically proven method to regress soft, vulnerable plaque. Such treatment, when tested, reviewed and approved by the varying government regulatory agencies worldwide, would offer the first treatment to the millions of patients currently undergoing treatment for atherosclerosis risk, as well as promise to those who have genetic, dietetic or disease predisposition to the potentially disastrous "first event" where the patient's only experience with an atherosclerotic event is a fatal heart attack or stroke. In 2013, we commenced the first-in-human Phase 1 clinical trial with our Russian partner using a randomized, double-blind, placebo controlled protocol with AHRO-001which enrolled and treated a total of 54 subjects. Enrollment, dosing and follow-up visits were concluded in 2013 and the data analysis is ongoing. We continue to develop and execute a portion of our clinical trial portfolio in Russia to enable our Russian partner's commercialization efforts in their Territory.

An important priority is to secure strategic and financial resources to potentially maximize the inherent value of our IP surrounding the use of bile salts in medical applications. The first step in this strategy was the successful consummation of the research agreement with OOO CardioNova ("CardioNova"), a wholly-owned subsidiary of the OOO Maxwell Biotech Group ("Maxwell"). This agreement is a critical first step in the development and potential commercialization of our IP. We would prefer to accomplish additional steps of our objectives through additional strategic alliances and selective licensing rights. Although we are actively engaged in discussions with potential strategic and/or financial partners, there can be no assurance that any strategic alliance or other financing transaction will be successfully concluded. Until such time as we secure sufficient strategic and financial resources to support the continuing development of our IP, and to support our operations, we will continue to conserve our resources, predominantly by pacing expenditures and research programs in our plan to develop a full line of IP surrounding the use of bile salts.

Business Strategy

Our goal is to develop a complete line of products based on our IP involving bile salts to address a number of medical conditions with the goal of introducing naturally occurring compounds to improve the medical conditions of those suffering from the effects of atherosclerosis caused by diabetes, heredity, poor diet and other plaque inducing states. Mortality and morbidity from the effects of atherosclerosis total in the billions of dollars each year for the United States healthcare system alone, with many times that for the worldwide market.

Our primary product goal is to develop AHRO-001 to address the disease of atherosclerosis. We have contracted for the manufacture of a significant quantity of our API necessary for use in clinical trials plus any requirements needed for toxicology testing. We have formulated and refined the oral administration tablet necessary to deliver our API to the ideal site in the digestive tract and continue to work on improvements and refinements to the formula. We are currently having manufactured drug product tablets to be used in our additional planned human clinical trials by our Russian development partner. The shipment of the tablets to be used in these additional clinical trials conducted there will be in the second quarter of 2014 with the commencement of enrollment of patients during the second half of 2014, pending regulatory approvals. The active treatment phase is planned to be for a period of twelve weeks and data should be available in approximately 90-120 days. A successful completion of that trial will allow CardioNova to move forward with a clinical study intended to enable the possible drug registration application for commercial sale in its distribution territory.

Concurrently, we have a toxicology program in progress at a Good Laboratory Practices ("GLP") registered facility to compile the data necessary for submission of an Investigational New Drug ("IND") application with the United Stated Food and Drug Administration ("FDA"). By submitting the IND application, expected to be during 2014, we will be able to initiate clinical trials in the United States and other counties that follow FDA guidelines. We expect to conduct these trials concurrent with the development program being conducted by CardioNova with the intent of using data generated in multiple trials to support and expand AHRO-001.

Additionally, we continue to develop additional bile acid compounds for potential commercialization based on our current patent filings in the United States as well as foreign jurisdictions.

Our Industry

We compete against well-capitalized pharmacological companies as well as smaller companies and universities. The market for our products is highly competitive as well as highly regulated. The pharmacological sector is evolving and growing rapidly, and companies are continually introducing new products and services. Many companies are exploring competing and complementary technologies. Pharmaceutical development is a cost intensive project with millions of dollars necessary to successfully develop, test and market compounds successfully. We expect to seek multiple financial or strategic financing opportunities in our development of our IP.

Business Operations

Research and Development

Our research and development activities are initially focused on the atherosclerosis regression potential of bile salts. We continually evaluate our research and development priorities in light of a number of factors, including our cash flow requirements and financial liquidity, the availability of third party funding, advances in technology, the results of ongoing development projects and the potential for development partnerships and co-development agreements. In connection with these evaluations, we modify and adapt our research and development plans from time to time and expect to do so in the future.

We are actively assessing various strategic and financial alternatives to secure necessary capital to advance our IP to maximize stockholder value, although we would prefer to accomplish our objectives through strategic alliances and

licensing agreements that would provide financial support (potentially in the form of upfront payments, milestone payments, commercialization royalties and a sharing of research and development expenses), development capabilities, and ultimately commercial expertise to maximize the potential of our bile salt IP. We are reviewing various financial alternatives that would provide infusions of capital and other resources to advance our current API development programs. Although we are considering several potential opportunities, there can be no assurance that any strategic alliance or other financing alternatives will be successfully concluded. Until such time as we secure sufficient strategic and financial resources to support the continuing development of our IP technology and support our operations, we will continue to conserve our resources, predominantly by curtailing and pacing investments in our development programs.

If we are able to secure the necessary capital, we also plan to invest opportunistically in bile salt IP addressing other health indications complimentary to our primary market of atherosclerosis regression, which we believe represent potentially significant market opportunities. We plan to initially develop these programs through a proof-of-concept phase and, if successful, thereafter determine whether to seek strategic alliances or collaboration arrangements or utilize other financial alternatives to fund their further development and/or worldwide commercialization, if approved. There can be no assurance, however, that we will succeed in demonstrating proof of concept or entering into any such alliance.

To support our research and development activities, we have:

- a medical advisory staff with expertise in cardiology and lipid sciences as well as consultants who are leading researchers in these fields;

- expertise in the design and implementation of protocols and guidelines for experiments and studies to support human drug development. We conduct certain development-related experiments and bench studies in-house and also engage professional research laboratories as well as academic and education centers to conduct animal and human studies and experiments requiring specialized equipment and expertise;

- regulatory consultants with expertise in FDA regulatory matters. We also consult extensively with independent FDA and international regulatory experts; and

- engineering expertise that supports development of novel molecules, conjugates and analogs of the existing compounds to strengthen our intellectual property position through work with third-party collaborators to advance the development of these compounds.

Research and development costs are charged to operations as incurred. During the years ended December 31, 2013 and 2012 and for the period from inception to December 31, 2013, our research and development expenses were $4,399,294, $986,261 and $6,258,630, respectively.

General and Administrative

We intend to continue investing in general and administrative resources primarily to support our intellectual property portfolios (including building and enforcing our patent and trademark positions), our business development initiatives, financial systems and controls, legal requirements, and general management capabilities.

Strategic Alliances and Collaboration Arrangements

OOO CardioNova Agreement

In October 2011, we entered into two definitive agreements with OOO CardioNova, a wholly-owned subsidiary of Maxwell Biotech Group, a Russian biotech fund, covering our AHRO-001 compound. The agreements cover a territory represented by the Russian Federation, the Ukraine and various countries in central Asia (the "Territory").

Under the Licensing Agreement, OOO CardioNova ("CardioNova") became an equity investor in our company in exchange for the funding of Phase 1 and 2 human clinical trials conducted by a Clinical Research Organization ("CRO") located in Russia. Pursuant to the agreement, a Joint Steering Committee was established between both entities and determined final clinical protocols and research budget of $3.8 million. Pursuant to the agreement, common stock equal to 10%, 20%, 40%, and 30% of the research budget of $3.8 million will be issued to CardioNova upon achievement of four milestones of the research and testing. The shares to be issued will be determined based upon a 20 day average price prior to issuance up to $0.97/share.

For accounting purposes, the costs to be incurred in connection with this agreement are considered compensatory and are recognized as a Research and Development expense. Recognition of these costs as expense will generally occur when certain development projects are commenced and performance milestones become probable of achievement and are deemed earned.

During 2013, several clinical development milestones were considered probable or were achieved. Upon acceptance of the development plan which occurred on April 25, 2013, 391,753 shares of common stock (10% of the research budget) were be issued to CardioNova at a 20-day weighted average prior to signature of the initial term sheet, or $0.97 per share. On April 29, 2013 the Russian Ministry of Healthcare approved the protocol submitted on January 22, 2013, upon which the Joint Steering Committee had based the Phase 1 protocol. Accordingly, 1,605,408 shares of our common stock were issued at the weighted 20-day average of $0.4734, representing 20% of the approved budget. As of December 31, 2013, the Company had issued 1,997,161 shares of its common stock, representing 30% of the research budget.

Significant judgment is required in assessing when a performance milestone is probable of achievement and estimating the timing of when the performance of these milestones will be completed. These determinations are based on discussion between the Company and CardioNova personnel that address qualitative and quantitative factors, including, but not limited to, overall complexity associated with the assessment, stage of the clinical trial, progress made to date, results of testing, and consideration of the nature of the work remaining in the trial(s). We have completed the evaluation of the performance of the two remaining milestones as of December 31, 2013. The milestones specify that additional common stock issuances of 40% and 30% of the approved budget shall be issued upon the announcement of Phase 1 results and announcement of Phase 2 results, respectively. Each tranche will be priced at the lower of the weighted 20-day average immediately prior to each issuance event, or $0.97 per share, whichever is lower. Our review of the progress by CardioNova on the milestone relating to Phase 1 work was estimated at approximately 80% completed and we determined that the achievement of the milestone was probable. As a result, we accrued $1,170,712 based upon the December 31, 2013 fair value of the estimated shares of common stock issuable at the end of fiscal year 2013 and was recorded as part of Research and Development – Related Party in the 2013 Statement of Operations. A corresponding liability for the estimate of the fair value of the shares to be issued is shown in our consolidated balance sheets as of December 31, 2013. The remaining value will be recognized as Research and Development expense in future periods based on actual progress toward this milestone and any variation of the actual total value of common stock issued or issuable upon future valuation measurement dates or upon completion of the milestone when compared to this periodic estimate will be expensed or credited to our statement of operations.

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As of December 31, 2013, the final milestone relating to the Phase 2 clinical trial calling for additional issuance of our common stock is currently not yet believed to be probable of achievement and no estimated liability or expense has been recorded.

If CardioNova successfully develops and commercializes AHRO-001 in the Territory, we will be entitled to receive a quarterly royalty, based on net sales during the period using an escalating scale. The royalty agreement shall remain in force for the period in which intellectual property rights for AHRO-001 are in full force and effect in the Territory. As of December 31, 2013, no royalty has been recorded as AHRO-001 has not been successfully developed and commercialized.

Under the Securities Purchase Agreement, CardioNova purchased 275,258 shares of our common stock for a cash purchase price of $0.97 per share, which took place in two installments. The first installment, which took place on December 22, 2011, was for the issuance of 154,639 shares upon receipt of $150,000 as specified in the Licensing Agreement. The 2nd installment of 120,619 shares took place on June 14, 2013 upon delivery of final clinical product to be used in Phase 1 clinical trials for proceeds of $117,000.

Potential Alliances and Collaboration Arrangements

We continue to seek strategic alliances and other collaborative arrangements for the development and/or commercialization of our bile salt IP product candidates that would provide financial support (potentially in the form of upfront payments, milestone payments, commercialization royalties and a sharing of research and development expenses), development capabilities, and ultimately commercial expertise to advance our bile salt technology. We also are reviewing various financial alternatives that would provide infusions of capital and other resources needed to advance our bile salt development programs. Although we are considering several potential opportunities, there can be no assurance that any strategic alliance or other financing alternatives will be successfully concluded.

Licensing, Patents and Other Proprietary Rights and Regulatory Designations

We continue to invest in maintaining and enforcing our potential competitive position through a number of means: (i) by protecting our exclusive rights in our bile salt intellectual property through patents and patent extensions, and (ii) by seeking regulatory exclusivities, including potential new application for an existing drug and new drug product exclusivities.

Patents and Proprietary Rights

Atherosclerosis and Bile Salt-Related Patents and Patent Rights

We have been active in seeking patent protection for our innovations relating to new applications for existing natural compounds previously used for other indications. Our patent activities have focused particularly on different uses of bile salts in regression of atherosclerotic plaque in various forms of administration, including transdermally, sublingually and intravenously. Such administrations bypass the normal physical sequestration of bile salts within the digestive tract. The function of bile salts in the normal process of digestion is to break down ingested fats to allow absorption by the intestines. The process of digestion returns the bile salts to the liver for re-processing or excretion in feces.

Between 2005 and 2012, we have filed with the U.S. and international patent offices a total of 22 patent applications in 9 families relating to the use of bile salts in the regression of atherosclerotic plaque, lipid dissolution and obesity via pharmacological preparations in various forms of administration. Such filings have been received and acknowledged by the respective filing offices.

In July 2012 we were notified of the U.S. patent office's intent to grant our first patent in the use of bile acids for dissolution of arterial plaque. In November 2012 the U.S. patent office issued patent #8,304,383 titled "Dissolution of Arterial Plaque Using Hyodeoxycholic Acid", with an expiration date of October 18, 2028.

In November 2013 we were notified of the U.S. patent office's intent to grant a second patent in the use of bile acids for dissolution of arterial plaque. We have not received final issuance of the patent as of March ,2014, and all other patent applications are still under review by the various patent agencies and are still pending.

Obesity Patents and Patent Rights

Included in the patent applications discussed above, are filings relating to the use of biocompatible emulsifiers in systemic circulation to treat obesity. Such filings elaborate on the scientific theories that exposure to bile salts could emulsify atherosclerotic soft vulnerable plaque, and that longer term exposure to circulatory significant quantities over an extended period of time could also break down accumulated fat cells around the body. Such theories currently are undergoing tests by third party organizations for validation.

Other Regulatory Designations

Food, Drug & Cosmetic Act 505(b)(2)New Drug Application

The FDA new drug application ("NDA") process has certain provisions under Section 505(b)(2) in which a compound previously approved as a reference listed drug ("RLD") can be considered for use for a new indication or condition. 505(b)(2) designation for a compound potentially allows sponsors to rely on certain data generated in the original RLD application. This designation can provide potential cost savings to companies seeking approvals for new indications or conditions by bypassing or demonstrating bioequivalence to the RLD and, if approved, market exclusivity for a limited period of time following approval. This exclusivity is separate and distinct from any patent(s) protection that may exist for the compound.

Competition

We are engaged in highly competitive fields of pharmaceutical research and development. Competition from numerous existing companies and others entering the fields in which we operate is intense and expected to increase. We expect to compete with, among others, conventional pharmaceutical companies. Most of these companies have substantially greater research and development, manufacturing, marketing, financial, technological personnel and managerial resources than we do. Acquisitions of competing companies by large pharmaceutical or health care companies could further enhance such competitors' financial, marketing and other resources. Moreover, competitors that are able to complete clinical trials, obtain required regulatory approvals and commence commercial sales of their products before we do may enjoy a significant competitive advantage over us. There are also existing therapies that may compete with the products we are developing.

Currently, the FDA has approved bile salts as pharmaceutical therapy for dissolution of gallstones for certain patients with a profile either not suitable for surgical intervention or not willing to undergo surgery for gallstone disease. Such use has been well tolerated and has a significant history of safety and efficacy in treatment of gallstone disease. Surgical intervention, specifically laparoscopic cholecystectomy, has become the preferred method of treatment of gallstone disease for patients who are acceptable surgical candidates. High surgical risk patients as well as those who choose to forego surgery as a method of treating gallstones, have used Actigall© for the treatment of gallstone disease for more than 20 years. Actigall© is based on the ursodeoxycholic acid, one of a family of bile salts (deoxycholic acids), or "DCA", that occur naturally in various forms in the digestive tracts of mammals. Our use of hyodeoxycholic acid ("HDCA") in our preliminary research is a different iteration of the forms of DCA found in the mammalian digestive tract. We intend to use HDCA, one of its conjugates or derivatives, to validate the initial in vivo study and as the basis for our IND filing.

Government Regulation

The development, manufacture, distribution, marketing and advertising of drug products are subject to extensive regulation by federal, state and local governmental authorities in the United States, including the FDA, and by similar agencies in other countries. Any product that we develop must receive all relevant regulatory approvals or clearances before it may be marketed in a particular country. Gaining regulatory approval of a drug product candidate requires the expenditure of substantial resources over an extended period of time. As a result, larger companies with greater financial resources will likely have a competitive advantage over us.

Development Activities: To gain regulatory approval of our bile salt IP products, we must demonstrate, through experiments, preclinical studies and clinical trials that each of our drug product candidates meets the safety and efficacy standards established by the FDA and other international regulatory authorities. In addition, we and our suppliers and contract manufacturers must demonstrate that all development-related laboratory, clinical and manufacturing practices comply with regulations of the FDA, other international regulators and local regulators. Regulations establish standards for such things as drug substances and materials; drug manufacturing operations and facilities and analytical laboratories and medical development laboratories processes and environments; in each instance, in connection with research, development, testing, manufacture, quality control, labeling, storage, record keeping, approval, advertising and promotion, and distribution of product candidates, on a product-by-product basis.

Pre-clinical Studies and Clinical Trials: Development testing generally begins with laboratory testing and experiments, as well as research studies using animal models to obtain preliminary information on a product's efficacy and to identify any safety issues. The results of these studies are compiled along with other information in an IND application, which is filed with the FDA. After resolving any questions raised by the FDA, which may involve additional testing and animal studies, clinical trials may begin. Regulatory agencies in other countries generally require a Clinical Trial Application (CTA) to be submitted and approved before each trial can commence in each country.

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Clinical trials normally are conducted in three sequential phases and may take a number of years to complete. Phase 1 consists of testing the drug product in a small number of humans, normally healthy volunteers, to determine preliminary safety and tolerable dose range. Phase 2 usually involves studies in a limited patient population to evaluate the effectiveness of the drug product in humans having the disease or medical condition for which the product is indicated, determine dosage tolerance and optimal dosage and identify possible common adverse effects and safety risks. Phase 3 consists of additional controlled testing at multiple clinical sites to establish clinical safety and effectiveness in an expanded patient population of geographically dispersed test sites to evaluate the overall benefit-risk relationship for administering the product and to provide an adequate basis for product labeling. Phase 4 clinical trials may be conducted after approval to gain additional experience from the treatment of patients in the intended therapeutic indication.

The conduct of clinical trials is subject to stringent medical and regulatory requirements. The time and expense required to establish clinical sites, provide training and materials, establish communications channels and monitor a trial over a long period of time is substantial. The conduct of clinical trials at institutions located around the world is subject to foreign regulatory requirements governing human clinical trials, which vary widely from country to country. Delays or terminations of clinical trials could result from a number of factors, including stringent enrollment criteria, slow rate of enrollment, size of patient population, having to compete with other clinical trials for eligible patients, geographical considerations and others. Clinical trials are monitored by the regulatory agencies as well as medical advisory and standards boards, which could determine at any time to reevaluate, alter, suspend, or terminate a trial based upon accumulated data, including data concerning the occurrence of adverse health events during or related to the treatment of patients enrolled in the trial, and the regulator's or monitor's risk/benefit assessment with respect to patients enrolled in the trial. If they occur, such delays or suspensions could have a material impact on our bile salt development programs.

Regulatory Review: The results of preclinical and clinical trials are submitted to the FDA in an NDA, with comparable filings submitted to other international regulators. After the initial submission, the FDA has a period of time in which it must determine if the NDA is complete. After an NDA is submitted, although the statutory period provided for the FDA's review is less than one year, dealing with questions or concerns of the agency and, taking into account the statutory timelines governing such communications, may result in review periods that can take several years. If an NDA is accepted for filing, following the FDA's review, the FDA may grant marketing approval, request additional information, or deny the application if it determines that the application does not provide an adequate basis for approval. If the FDA grants approval, the approval may be conditioned upon the conduct of post-marketing clinical trials or other studies to confirm the product's safety and efficacy for its intended use. Until the FDA has issued its approval, no marketing activities can be conducted in the United States. Similar regulations apply in other countries.

Manufacturing Standards: The FDA and other international regulators establish standards and routinely inspect facilities and equipment, analytical and quality laboratories and processes used in the manufacturing and monitoring of products. Prior to granting approval of a drug product, the agency will conduct a pre-approval inspection of the manufacturing facilities, and the facilities of suppliers, to determine that the drug product is manufactured in accordance with current good manufacturing practices ("cGMP") regulations and product specifications. Following approval, the FDA will conduct periodic inspections. If, in connection with a facility inspection, the FDA determines

that a manufacturer does not comply with cGMP regulations and product specifications, the FDA will issue an inspection report citing the potential violations and may seek a range of remedies, from administrative sanctions, including the suspension of our manufacturing operations, to seeking civil or criminal penalties.

International Approvals: If we succeed in gaining regulatory approval to market our products in the United States, we will still need to apply for approval with other international regulators. Regulatory requirements and approval processes are similar in approach to that of the United States. With certain exceptions, although the approval of the FDA carries considerable weight, international regulators are not bound by the findings of the FDA and there is a risk that foreign regulators will not accept a clinical trial design or may require additional data or other information not requested by the FDA. In Europe, there is a centralized procedure available under which the EMEA will conduct the application review and recommend marketing approval to the European Commission, or not, for the sale of drug products in the EU countries.

Post-approval Regulation: Following the grant of marketing approval, the FDA regulates the marketing and promotion of drug products. Promotional claims are generally limited to the information provided in the product package insert for each drug product, which is negotiated with the FDA during the NDA review process. In addition, the FDA enforces regulations designed to guard against conflicts of interest, misleading advertising and improper compensation of prescribing physicians. The FDA will review, among other things, direct-to-consumer advertising, prescriber-directed advertising and promotional materials, sales representative communications to healthcare professionals, promotional programming and promotional activities on the Internet. The FDA will also monitor scientific and educational activities. If the FDA determines that a company has promoted a product for an unapproved use (“off-label”), or engaged in other violations, it may issue a regulatory letter and may require corrective advertising or other corrective communications to healthcare professionals. Enforcement actions may also potentially include product seizures, injunctions and civil or criminal penalties. The consequences of such an action and the related adverse publicity could have a material adverse effect on a developer’s ability to market its drug and its business as a whole.

Following approval, the FDA and other international regulators will continue to monitor data to assess the safety and efficacy of an approved drug. A post-approval discovery of previously unknown problems or failure to comply with the applicable regulatory requirements may result in restrictions on the marketing of a product or a recall or withdrawal of the product from the market, as well as possible civil or criminal sanctions. Similar oversight is provided by international regulators.

None of our products under development has been approved for marketing in the United States or elsewhere. We may not be able to obtain regulatory approval for any of our products under development. If we do not obtain the requisite governmental approvals or if we fail to obtain approvals of the scope we request, we or our licensees or strategic alliance or marketing partners may be delayed or precluded entirely from marketing our products, or the commercial use of our products may be limited. Such events would have a material adverse effect on our business, financial condition and results of operations.

Certain of our product candidates may qualify for Fast Track designation. Fast Track designation means that the FDA has determined that the drug is intended to treat a serious or life-threatening condition and demonstrates the potential to address unmet medical needs. An important feature is that it provides for accelerated approval and the possibility of rolling submissions and emphasizes the critical nature of close, early communication between the FDA and sponsor to

improve the efficiency of product development. The FDA generally will review an NDA for a drug granted Fast Track designation within six months instead of the typical one to three years.

Employees

As of March 17, 2014, we had 3 full-time employees all employed in the United States. No employees are subject to a collective bargaining agreement. These employees are subject to the confidentiality/non-disclosure provisions of their terms of employment.

Description of Property

We maintain our principal executive offices at 2301 Dupont Drive, Suite 525, Irvine, California 92612-7525, which consists of 1,930 square feet of office space, for which we entered into a lease in June 2012. Under that lease, which will run for a period of 66 months, we are obligated to pay an annual rent of approximately $42,846. The lease, which commenced on October 1, 2012, also contains an annual escalator clause of approximately 2.5% each April 1st throughout the term of the lease. We do not occupy any other facility or own any real property.

Legal Proceedings

We are not aware of any pending or threatened legal actions to which we are a party or of which our property is the subject that would, if determined adversely to us, have a material adverse effect on our business and operations.

We have from time to time been involved in disputes and proceedings arising in the ordinary course of business. In addition, as a public company, we are also potentially susceptible to litigation, such as claims asserting violations of securities laws. Any such claims, with or without merit, if not resolved, could be time-consuming and result in costly litigation. There can be no assurance that an adverse result in any future proceeding would not have a potentially material adverse effect on our business, results of operations or financial condition.

management

The following table sets forth the names, ages and positions of our current executive officers and directors as of the date of this prospectus. All directors serve until the next annual meeting of stockholders or until their successors are elected and qualified. Officers are appointed by our board of directors and their terms of office are, except to the extent governed by an employment contract, at the discretion of our board of directors

Name	Age	Position Held
Thomas W. Gardner	60	Chairman, Chief Executive Officer and President
Mark Selawski	58	Chief Financial Officer and Secretary
Gary Freeman	46	Director and Chairman of the Audit Committee
Boris Ratiner, M.D.	46	Director and Chairman of the Medical Committee
Paul DiPerna	55	Director and Chairman of the Compensation Committee
Alexander Polinsky, Ph.D.	58	Director
Chaim Davis	36	Director
Johan (Thijs) Spoor	41	Director
Fred Knoll	58	Director

Biographical Information

Thomas W. Gardner has served as our Chairman, Chief Executive Officer and President since May 2010, and as the Chief Executive Officer, the President and a director of AtheroNova Operations Inc. since its formation in December 2009. He held the same positions with Z&Z Medical Holdings, Inc., the predecessor in interest to AtheroNova Operations, Inc. from December 2006 until its merger into AtheroNova Operations Inc. in March 2010. Since September 2008, he also has been the President of PhyGen LLC, which designs, manufactures and sells instruments and implants for spine surgery. He is a senior medical industry executive with twenty-six years' experience in healthcare. He has extensive hands-on experience with successful start-up ventures, having helped found six healthcare companies, three of them that were publicly traded. He has served as President/CEO of Urogen, a San Diego-based Biotech company, President of Endocare, an Orange County-based urologic products company; President/CEO of AutoCath, an Orange County based vascular access company, and Executive Vice President of Medstone International, an Orange County medical products company. Mr. Gardner also serves as a member of the board of directors of each MMR Holdings, Inc., and Gardner Syndication Management. Mr. Gardner's twenty-six years of experience in the healthcare industry and his substantial experience with successful start-up ventures and public companies enables him to offer valuable perspectives on the operation of our business.

Mark Selawski has served as our Chief Financial Officer and Secretary since May 2010. Mr. Selawski joined AtheroNova Operations Inc. and Z&Z Medical Holding, Inc. in January 2010 as Chief Financial Officer. He became the Secretary of AtheroNova Operations Inc. in March 2010. From June 2004 to December 2009 he served as Chief Financial Officer of United Polychem, Inc., a privately held petrochemical distribution company. From 1988 to 2004,

he held several positions at Medstone International, during the last 9 years being the Vice President-Finance, Chief Financial Officer and Corporate Secretary. Medstone was a NASDAQ-listed capital medical device manufacturer dedicated to urology products. Before joining Medstone, he held various financial positions with a number of manufacturing and high-tech companies in Southern California. He received his Bachelor of Science in Accounting from Bowling Green State University in 1978.

Gary Freeman has served as one of our directors since July 2007 and currently serves as the Chairman of the Audit Committee of our board of directors. Mr. Freeman is currently a Partner in Beach, Freeman, Lim & Cleland LLP's Audit and Accounting services division. In conjunction with various consulting engagements, Mr. Freeman has assumed interim senior level management roles at numerous public and private companies during his career, including Co-President and Chief Financial Officer of Trestle Holdings, Inc., Chief Financial Officer of Silvergraph International and Chief Financial Officer of Novica United, Inc. Mr. Freeman served as a member of the board of directors of Blue Holdings, Inc. Trestle Holdings, Inc. and GVI Security Solutions. Mr. Freeman also serves as a member of the board of directors of Saleen Automotive Inc. (SLNN). Mr. Freeman's previous experience includes ten years with BDO Seidman, LLP, including two years as an Audit Partner. Mr. Freeman received his Bachelor's degree in Business from University of Notre Dame in 1990. Mr. Freeman brings to our board his extensive experience in accounting and financial matters for public companies.

Boris Ratiner, M.D. has served as one of our director since May 2010 and currently serves as the Chairman of the Medical Committee of our board of directors. Dr. Ratiner has been a director of AtheroNova Operations, Inc. since December 2009 and was a director of Z&Z Medical Holdings, Inc. from December 2006 until March 2010. He received an Advanced Bachelor's degree in Chemistry at Occidental College in Los Angeles. He then attended Medical School at LSU in New Orleans, followed by an Internal Medicine Residency and Rheumatology Fellowship at the University of California San Francisco (UCSF). He is Board Certified in Internal Medicine and Rheumatology and is in private practice in Tarzana, California. He is the medical director and founder of Rheumatology Therapeutics, where he leads a team of 23 staff members that care for patients with Arthritis and Autoimmune Diseases. He also serves on the board of the San Fernando Valley Branch of the Arthritis Foundation and is the Program Director for the Southern California Rheumatism Society. He is a founder and active board member of 4Medica, a successful medical informatics company that he co-founded in 1999. He is also a member of the board of directors of Therakine Ltd., a novel drug delivery company for biologics and small molecules. Dr. Ratiner is also a Clinical Instructor of Medicine at the David Geffen School of Medicine at the University of California Los Angeles (UCLA) and an instructor at the Northridge Family Medicine Teaching Program. He is an active clinical investigator and is actively involved in trials of new medications for gout, lupus, rheumatoid arthritis, osteoarthritis, psoriatic arthritis, ankylosing spondylitis and fibromyalgia. He is published in peer-reviewed papers, abstracts and textbooks. He is a frequent speaker at local hospitals to physicians on Rheumatology related diseases. He has authored several book chapters on osteoarthritis and research papers on Hepatitis C arthritis. Dr. Ratiner's extensive experience in various aspects of medical practice and research provides valuable insights with respect to our research and development activities.

Paul DiPerna has served as a member of our board of directors since November 2010 and currently serves as the Chairman of the Compensation Committee of our board of directors. Since March, 2011, Mr DiPerna has been the Chief Executive Officer of Concert Innovators, a private company, where he is acting as a consultant. Mr. DiPerna is the Founder, and former Chief Technical Officer and sat as a Board Member of Tandem Diabetes Care prior to its recent public offering. Tandem has developed technology used in the care of diabetes. In this venture Mr. DiPerna has over 18 patents issued and in process. Prior to forming Tandem, Mr. DiPerna worked at Baxter Healthcare for 14 years where he held progressive management positions as a Technologist for cell separation systems, Program Manager of the largest and most complex system Baxter had undertaken, Director of Business Develop in the corporate technology group creating new technologies and integrating acquisitions into Baxter and as the General Manager of Digital Dental Sciences, a CT-based startup within the organization. Mr. DiPerna had 10 patents issued at Baxter. Mr. DiPerna was also a Senior VP of Technology and Operations at Hepahope, a startup developing liver dialysis systems for end stage liver failure patients prior to funding of Tandem. Mr. DiPerna received a Masters in

Engineering Management from Northeastern University in 1983 and a BS in Mechanical Engineering from the University of Massachusetts Lowell in 1980. He is a member of the American Diabetes Association and the American Society of Clinical Oncology. Mr. DiPerna brings to our board of directors his extensive management experience in the healthcare industry.

Alexander Polinsky, Ph.D. has served as a member of our board of directors since October 2010. Dr. Polinsky received his Ph.D. in Physical Chemistry from Moscow University, Russia, in 1982, followed by post-doctoral training at the Institute for Biochemistry at the Russian Academy of Science. He was on the faculty at Moscow University for 5 years studying the mechanisms of action of synthetic vaccines. After moving to the U.S. in 1988, he spent 2.5 years as a Visiting Scientist at UCSD developing new methods for computer-aided drug design. In 1991, Dr. Polinsky co-founded the Alanex Corporation and built the company from scratch around novel computational and combinatorial chemistry technologies; he served as Alanex's Chief Scientific Officer until it was acquired by Agouron in 1997. After the acquisition by Pfizer in 2000, Dr. Polinsky became Vice President, Head of Discovery Technologies, at the Pfizer La Jolla Labs. In 2001 he established Pfizer's global chemistry outsourcing network and between 2001 and 2006, managed a $750 million investment in the creation of modern drug screening collection. In 2006, he moved into Pfizer Global Research Technology where he led the development of Pfizer External Research Network and Pharma Incubator concepts. In 2007, Dr. Polinsky established The Pfizer Incubator (TPI) and became its CEO, starting three biotechnology companies. He left Pfizer in 2008 to pursue his own entrepreneurial interests and in 2009 started a biotech company Tartis, Inc. developing oncology drugs, and joined Maxwell Biotech Venture Fund as its Managing Partner. In 2013, Dr. Polinsky's role in Maxwell Biotech Fund was reduced to a Venture Partner. Over the years, Dr. Polinsky invested and served on boards of several private biotech startups, including Tartis, Inc., Onco Tartis, Inc., Tartis-Aging., 4Medica, Inc. and Gowan Co. Dr. Polinsky brings to our board of directors his extensive experience in the pharmaceutical industry.

Chaim Davis has served as one of our directors since May 2010. He is currently the Managing Partner of Revach Fund L.P., an investment fund focused on life science industries. He served as a Healthcare Analyst at The Garnet Group from April 2001 through June 2004. Mr. Davis is also a member of the board of directors of Entera Bio, a private biotechnology company. He received his bachelor's degree from Columbia University. Mr. Davis' experience in various aspects of life science and healthcare industry investments provides valuable insights with respect to capitalizing our operations.

Johan (Thijs) M. Spoor was appointed as a member of our board of directors on January 3, 2012. Mr. Spoor has been serving as the Chairman and Chief Executive Officer, and is a director, of FluoroPharma Medical, Inc.(FPMI) since September 2010. He previously held the title of Chief Financial Officer for Sunstone BioSciences. Prior to joining Sunstone BioSciences, from December 2008 to February 2010, he worked as a consultant at Oliver Wyman focusing on helping pharmaceutical and medical device companies evaluate their global revenue potential given the complex interplay of regulatory approvals, the reimbursement environment, as well as the impact of physician preference within constantly evolving standards of care. He further specialized on the implications of healthcare reform on new product approval and health insurance reform. Mr. Spoor has also been an equity research analyst at J.P. Morgan and Credit Suisse covering the Biotechnology and Medical Device industries. He worked in the pharmaceutical industry spending 10 years with Amersham / GE Healthcare where he worked in seven countries in a variety of roles including setting up GMP facilities meeting ISO 9001 standards, accountability for the entire nuclear cardiology portfolio and most recently as the Director of New Product Opportunities leading the PET strategic plan. Mr. Spoor received a Nuclear Pharmacy degree from the University of Toronto in 1994 as well as an M.B.A. from Columbia University with concentrations in finance and accounting in 2006. He has been a guest lecturer at Columbia Business School, Kings College in London and the University of Newcastle in Australia and has presented at medical grand rounds and psychiatric grand rounds at various hospitals on the role of brain imaging. Mr. Spoor also serves as chairman of the board of directors of MetaStat, Inc (MTST) and serves on the board of directors of Protea BioSciences. Mr. Spoor's experience managing a publicly traded company and his experience in the pharmaceutical and medical device

industries provides valuable insights with respect to our operational activities.

Fred Knoll was appointed as a member of our board of directors on November 6, 2012. Since 1989, Mr. Knoll has been the principal and portfolio manager at Knoll Capital Management, an investment company managing funds over the last two decades in areas such as emerging growth companies, restructurings and China. During the 1980's and early 1990's, he was Chairman of the Board of Directors of Telos Corporation, a computer systems integration company, served as investment manager for General American Investors, was the United States representative on investments in leveraged buyouts and venture capital for Murray Johnstone, Ltd. of Glasgow, UK, and headed the New York investment group of Robert Fleming, Inc., at the time, a leading United Kingdom merchant bank subsequently acquired by JP Morgan, managing a venture capital fund and the U.S. research team. Mr. Knoll started his investment career as an investment analyst at Capital Research (Capital Group) in the 1980s and held positions in sales and marketing with Wang Inc. and Data General and software engineering with Computer Sciences Corporation in the 1970s. Mr. Knoll holds a Bachelor's of Science in Electrical Engineering and Computer Science from Massachusetts Institute of Technology (M.I.T.), a Bachelor's of Science in Management from the Sloan School at M.I.T., and a M.B.A. from Columbia University in Finance and was a member of the Columbia University International Fellows Program. Mr. Knoll's experience as an investor provides valuable insights with respect to capitalizing our operations.

On May 13, 2010, Filiberto Zadini, Giorgio Zadini, Thomas W. Gardner and Boris Ratiner (collectively the "Z&Z Shareholders"), and W-Net Fund I, L.P. ("W-Net"), Europa International, Inc. ("Europa") and MKM Opportunity Master Fund, Ltd. ("MKM" and togerther with W-Net and Europa, the "Purchasers"), entered into a Voting Agreement, as amended on November 6, 2012, pursuant to which such parties became obligated, for four years, to vote to elect members of our board of directors as described below. The Voting Agreement provides that the authorized number of directors will be eight, consisting of three directors whose replacements will be determined under the terms of the Voting Agreement by the holders of a majority of the shares held by the Z&Z Shareholders currently Thomas W. Gardner, Boris Ratiner, M.D. and Paul DiPerna, three directors whose replacements will be determined under the Voting Agreement by the holders of a majority of the shares held by the Purchasers, currently Gary Freeman, Chaim Davis and Fred Knoll, and two additional directors whose replacements will be determined jointly by the holders of a majority of the shares held by the Z&Z Shareholders and the holders of a majority of the shares held by the Purchasers, currently Alexander Polinsky, Ph.D. and Johan (Thijs) M. Spoor.

Board Leadership Structure

We do not currently separate the roles of chief executive officer and chairman of the board Our board of directors is committed to promoting our effective, independent governance. Our board believes it is in our best interests and the best interests of our stockholders for the board to have the flexibility to select the best director to serve as chairman at any given time, regardless of whether that director is an independent director or the chief executive officer. Consequently, we do not have a policy governing whether the roles of chairman of the board and chief executive officer should be separate or combined. This decision is made by our board of directors, based on our best interests considering the circumstances at the time.

Director Independence

Our Audit Committee currently consists of Messrs. Davis, Freeman and Spoor. Our Audit Committee is responsible for selecting and engaging our independent accountant, establishing procedures for the confidential, anonymous submission by our employees of, and receipt, retention and treatment of concerns regarding accounting, internal controls and auditing matters, reviewing the scope of the audit to be conducted by our independent public accountants, and periodically meeting with our independent public accountants and our chief financial officer to review matters relating to our financial statements, our accounting principles and our system of internal accounting controls. Our Audit Committee reports its recommendations as to the approval of our financial statements to our board of directors. The role and responsibilities of our Audit Committee are more fully set forth in an amended and restated written charter adopted by our board of directors on June 17, 2010. Our Audit Committee reviews and reassesses the Audit Committee Charter annually and recommends any changes to our board of directors for approval. We are not a “listed company” under SEC rules and are therefore not required to have an audit committee comprised of independent directors. We have, however, determined that Messrs. Davis and Freeman are “independent” as that term is defined in Section 803A of the NYSE MKT Company Guide.

Our Compensation Committee currently consists of Messrs. DiPerna, Davis and Freeman. Generally, our Compensation Committee is responsible for considering and making recommendations to our board of directors regarding executive compensation and for administering the Plan. The role and responsibilities of our Compensation Committee are more fully set forth in a written charter adopted by our board of directors on June 17, 2010. Our Compensation Committee reviews and reassesses the Compensation Committee Charter annually and recommends any changes to our board of directors for approval. We are not a “listed company” under SEC rules and are therefore not required to have a compensation committee comprised of independent directors. We have, however, determined that Messrs. Davis and Freeman are “independent” as that term is defined in Section 803A of the NYSE MKT Company Guide.

We do not have a nominating committee or nominating committee charter for persons to be proposed as directors for election to our board of directors. The duties and functions performed by such committee are performed by the full

board of directors. We do not have any restrictions on stockholder nominations under our amended and restated certificate of incorporation or bylaws. The only restrictions are those applicable generally under the Delaware General Corporation Law and the federal proxy rules. Currently, our entire board of directors decides on nominees, on the recommendation of one or more members of our board of directors. We are not a “listed company” under SEC rules and are therefore not required to have a nominating committee comprised of independent directors. We have, however, determined that Messrs. Davis and Freeman are “independent” as that term is defined in Section 803A of the NYSE MKT Company Guide.

Family Relationships

There is no family relationship between any director, executive officer or person nominated to become a director or executive director.

executive compensation

Summary Compensation Table

The following table and related footnotes show the compensation paid during the fiscal years ended December 31, 2013 and 2012, to our named executive officers:

Name and Principal Position	Year	Salary ($)	Bonus ($)(3)	Option Awards ($)	All Other Compensation ($)	Total ($)
Thomas W. Gardner (1)	2013	$--	$--		$ 160,000	$160,000
Chairman, Chief Executive Officer and President	2012	$--	$48,000	$ --	$ 146,667	$194,667
Mark Selawski (2)	2013	$168,000	$--		$ --	$168,000
Chief Financial Officer and Secretary	2012	$178,000	$50,400	$ --	$ --	$228,400

(1) Mr. Gardner serves as our Chairman, Chief Executive Officer and President under a Management Consulting Agreement dated August 30, 2010, the terms of which are described below, and has served in these capacities since May 2010.

(2) Mr. Selawski serves as our Chief Financial Officer and Secretary under an Employment Agreement dated August 30, 2010, as amended effective August 29, 2012, the terms of which are described below, and has served in these capacities since May 2010.

(3) Messrs. Gardner and Selawski accrued cash bonuses equal to 30% of their then current salary during 2012 upon successful financing transactions of at least $3,500,000 during the terms of their employment agreements. The bonuses were paid during 2013 after completion of our annual audit for the 2012 fiscal year and are reflected in the 2012 compensation amounts .

Management Consulting Agreement

On August 30, 2010, we entered into a Management Consulting Agreement (the “Management Agreement”) with Thomas W. Gardner, our Chairman, Chief Executive Officer and President. Under the terms of the Management Agreement, which expired by its terms on August 29, 2013, we engaged Mr. Gardner to provide consulting and management services to us relating to the functions of chief executive officer, and agreed that he will have the full range of executive duties and responsibilities that are customary for public company chief executive officers, reporting to our board of directors. Although the Management Agreement has expired, we continue to retain the services of Mr. Gardner at the same rate of compensation in effect at the time of expiration of the Management Agreement and stock options granted to him at the commencement of the Management Agreement continue to vest per the option agreement (as described below).

Under the Management Agreement, Mr. Gardner received an annual fee at an initial rate of $144,000, which then increased to $160,000 as of August 30, 2011. In the event Mr. Gardner was employed on a full-time basis, Mr. Gardner's annual compensation would have increased to $190,000 on the first anniversary of his employment date and to $240,000 on the second anniversary of his employment date. Notwithstanding the foregoing, in the event that we would have consummated a capital raise transaction of at least $3,500,000 (a "Funding"), Mr. Gardner's annual compensation would have increased to $190,000 if such Funding was consummated before August 30, 2012, and $240,000 if such Funding had been consummated on or after August 30, 2012. Mr. Gardner was also entitled to receive an annual bonus equal to 30% of his then applicable annual compensation if we had successfully completed a Funding and we had realized certain operating benchmarks to be determined by our Compensation Committee in the respective fiscal year. In addition, Mr. Gardner was entitled to reimbursement of his reasonable legal fees (up to $10,000) incurred in connection with negotiating the Management Agreement. Payments under the Management Agreement would have been grossed up to cover any taxes, interest and/or penalties incurred as a result of any payment under the Management Agreement being subject to the excise tax imposed by Section 4999 of the Internal Revenue Code of 1986, as amended.

As an inducement material to Mr. Gardner's decision to enter into the Management Agreement our Compensation Committee granted to Mr. Gardner options under our 2010 Stock Incentive Plan (the "2010 Plan") to purchase 1,000,000 shares of our common stock ("Common Stock"). The options have a term of 7 years, a per share exercise price of $1.11, vested 25% on the first anniversary of the date of grant and continue to vest at 6.25% on a quarterly basis thereafter until fully vested.

Employment Agreement

On August 30, 2010, we also entered into an Employment Agreement (the "Employment Agreement") with Mark Selawski, our Chief Financial Officer and Secretary. The Employment Agreement replaced our existing employment agreement with Mr. Selawski. Under the terms of the Employment Agreement, which expired by its terms on August 29, 2013, we employed Mr. Selawski as our Chief Financial Officer reporting to our Chief Executive Officer. Although the Employment Agreement has expired, we continue to retain the services of Mr. Selawski at the same rate of compensation and provide benefits to him that were in effect at the time of expiration of the Employment Agreement. All stock options granted to Mr. Selawski during his employment with us continue to vest per the option agreements (as described below).

Mr. Selawski received an annual salary at an initial rate of $144,000 for the first year, with an increase to $168,000 on August 30, 2011. Notwithstanding the foregoing, in the event that we had consummated a Funding Mr. Selawski's annual salary would have increased to $210,000 if such Funding was consummated on or after August 30, 2011. Mr. Selawski was also entitled to receive an annual bonus equal to 30% of his then applicable annual salary if we had successfully completed a Funding and we had realized certain operating benchmarks to be determined by our Compensation Committee in the respective fiscal year. Mr. Selawski has received an automobile allowance of $300 per month, or with his consent, we could lease a vehicle for Mr. Selawski's use in lieu of paying such automobile allowance, and would be entitled to three weeks annual paid vacation. Mr. Selawski was also entitled to reimbursement of his reasonable legal fees (up to $10,000) incurred in connection with negotiating the Employment Agreement. Payments under the Employment Agreement would have been grossed up to cover any taxes, interest and/or penalties incurred as a result of any payment under the Employment Agreement being subject to the excise tax imposed by Section 4999 of the Internal Revenue Code of 1986, as amended.

As an inducement material to Mr. Selawski's decision to enter into the Employment Agreement our Compensation Committee granted to Mr. Selawski options under the 2010 Plan to purchase 250,000 shares of Common Stock. The options have a term of 7 years, a per share exercise price of $1.11, vested 25% on the first anniversary of the date of grant and continue to vest at 6.25% on a quarterly basis thereafter until fully vested.

On November 29, 2012 the Compensation Committee approved the First Amendment to Mr. Selawski's Employment Agreement, effective as of August 29, 2012, in which the term of the Employment Agreement was extended from two to three years in length and the lump sum payment due upon termination without Cause had been reduced to six months of his then current base salary. All other terms and conditions remained unchanged.

Outstanding Equity Awards at Fiscal Year-End

The following table provides information regarding outstanding options held by our named executive officers as of the end of our fiscal year ended December 31, 2013.

Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($) (1)	Option Expiration Date
Thomas W. Gardner (2)	812,500	187,500	1.11	08/30/17
Mark Selawski (3)	538,055	11,443	0.22	01/06/17
Mark Selawski (2)	203,125	46,875	1.11	08/30/17
Mark Selawski (4)	18,955	16,045	1.25	10/11/18

(1) Subject to certain conditions, the exercise price may be paid by delivery of already owned shares and the tax withholding obligations related to exercise may be paid by reduction of the underlying shares.

(2) The options granted vested 25% on the first anniversary of the grant date and 6.25% every three months thereafter until fully vested. The options are for a 7-year term, subject to earlier termination in certain events related to termination of employment. The option vesting ceases if there is a termination of employment and are forfeited entirely if termination is for cause. The Compensation Committee retains discretion, subject to the option plans' limits, to modify the terms of outstanding options. Although the contracts under which these options were granted have expired, the options remain outstanding and continue to vest per the original agreements.

(3) The option granted vested 25% on the first anniversary of the grant date and 2.0833% every month thereafter until fully vested. The options are for a 7-year term, subject to earlier termination in certain events related to termination of employment. The option vesting ceases if there is a termination of employment and are forfeited entirely if termination is for cause. The Compensation Committee retains discretion, subject to the option plans' limits, to modify the terms of outstanding options. The option remains outstanding and continues to vest per the option

agreement for as long as Mr. Selawski remains employed by us.

(4) The options granted vest 1/48th on the monthly anniversary date of the grant until fully vested. The options are for a 7-year term, subject to earlier termination in certain events related to termination of employment. The option vesting ceases if there is a termination of employment and are forfeited entirely if termination is for cause. The Compensation Committee retains discretion, subject to the option plans' limits, to modify the terms of outstanding options. The option remains outstanding and continues to vest per the option agreement for as long as Mr. Selawski remains employed by us.

None of the executive officers listed in the above table exercised options during the fiscal year ended December 31, 2013.

Compensation of Directors

Independent directors are compensated at a base rate of $7,500 per year, paid in quarterly installments. Directors serving as chairman of a standing committee of our board of directors also receive an additional $5,000 per year, also paid in quarterly installments. Directors who are also employees or officers of our company do not receive any amounts over and above their compensation as an employee of our company. Each director has received cash compensation commensurate with their election to our board of directors. Each director also receives stock options upon his/her election to our board of directors and will receive annual option grants on the date of each successive stockholders' meeting in which they are elected to serve a successive term. Such grants for committee chairmen is an initial grant of an option to purchase 75,000 shares of common stock on the date of election and a grant of an option to purchase 37,000 shares of common stock at each successive annual stockholders meeting. Directors not serving as the chairman of a committee receive an option to purchase 50,000 shares of common stock on the date of election and an option to purchase 25,000 shares of common stock at each successive annual stockholders meeting. Vesting on all non-employee director stock options is 25% upon the date of grant and 25% on each anniversary of the date of grant until fully vested. The options expire seven years after the grant date of the option.

The following table presents information regarding compensation paid to our non-employee directors for our fiscal year ended December 31, 2013

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)	Total ($)
Gary Freeman	12,500	13,530	26,030
Boris Ratiner	12,500	82,200	94,700
Chaim Davis	7,500	9,020	16,520
Alexander Polinsky	7,500	9,020	16,520
Paul DiPerna	12,500	13,530	26,030
Johan (Thijs) Spoor	7,500	9,020	16,520

Fred Knoll	7,500	--	7,500

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table presents information regarding the beneficial ownership of our common stock by the following persons as of March 17, 2014: (i) each executive officer and director, (ii) all executive officers and directors as a group and (iii) each stockholder known to be the beneficial owner of more than 5% of our outstanding common stock (not taking into account contractual restrictions on beneficial ownership.

Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Unless otherwise indicated below, to our knowledge, the persons and entities named in the table have sole voting and sole investment power with respect to all shares beneficially owned, subject to community property laws where applicable. Shares of our common stock subject to options or warrants that are currently exercisable or exercisable within 60 days of March , 2014 are deemed to be outstanding and to be beneficially owned by the person holding the options for the purpose of computing the percentage ownership of that person but are not treated as outstanding for the purpose of computing the percentage ownership of any other person.

The information presented in this table is based on 41,584,020 shares of our common stock outstanding and all options and warrants exercisable as of on March 17, 2014. Unless otherwise indicated, the address of each of the executive officers and directors and 5% or more stockholders named below is c/o AtheroNova Inc., 2301 Dupont Drive, Suite 525, Irvine, CA 92612.

Name & Address of Beneficial Owner	**Shares**	**Percentage of Class Outstanding**	
Executive Officers and Directors:			
Thomas W. Gardner(1)	4,337,437	10.2	%
Mark Selawski (2)	851,038	2.0	%
Boris Ratiner, MD (3)	3,321,951	7.7	%
Chaim Davis(4)	323,958	*	
Gary Freeman(5)	121,875	*	
Alexander Polinsky, PhD(6)	81,250	*	
Paul DiPerna(7)	93,956	*	
Johan (Thijs) Spoor(8)	82,500	*	
Fred Knoll(9)	8,624,621	18.0	%
Directors and Executive Officers as a Group(10)	17,868,586	34.4	%
5% Stockholders:			
Giorgio Zadini, MD 1515 Victoria Rd. S.	4,411,247	10.6	%

Mendota Heights, MN 95118			
Europa International, Inc.(11)	8,329,621	17.5	%
1114 Avenue of the Americas, 45th Floor			
New York, NY 10036			
ACT Capital Management, LLLP (12)	6,404,565	14.3	%
2 Radnor Corporate Center, Suite 111			
Radnor, PA 19087			
Amir L Ecker (12)	6,404,565	14.3	%
c/o ACT Capital Management, LLLP			
2 Radnor Corporate Center, Suite 111			
Radnor, PA 19087			
Carol G. Frankenfield (13)	6,414,565	14.3	%
c/o ACT Capital Management, LLLP			
2 Radnor Corporate Center, Suite 111			
Radnor, PA 19087			
OOO CardioNova	2,272,419	5.5	%
21 Bolshaya Yakimanka St			
Moscow, Russia			

*Less than 1%

(1) Includes 875,000 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding stock options and 47,168 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding warrants.

(2) Includes 790,123 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding stock options and 5,700 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding warrants.

(3) Includes 180,208 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding stock options, 1,230,120 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding warrants and 217,391 shares issuable within 60 days of March 17, 2014 upon conversion of presently outstanding convertible notes.

(4) Includes 115,625 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding stock options.

(5) Includes 121,875 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding stock options.

(6) Includes 81,250 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding stock options.

(7) Includes 87,500 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding stock options.

(8) ncludes 50,000 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding stock options and 7,500 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding warrants.

(9) Consists of 2,200,844 shares held directly by Europa, 25,000 shares issuable to Mr. Knoll within 60 days of March 17, 2014 upon exercise of presently outstanding stock options, 1,348,440 shares issuable to Europa within 60 days of March 17, 2014 upon exercise of presently outstanding warrants, and 4,780,337 shares issuable to Europa within 60 days of March 17, 2014 upon conversion of presently outstanding convertible notes. The aforementioned notes and the warrants prohibit Europa from converting the notes or exercising the warrants if after such conversion and/or exercise Europa would beneficially own more than 4.9% of our outstanding common stock. Europa's beneficial ownership is therefore limited to 4.9% of our outstanding common stock until such time as the shares issuable under the notes and the warrants, along with shares of our common stock held by Europa, constitute 4.9% or less of our outstanding common stock, or Europa elects to remove such restriction. Fred Knoll, the principal of Knoll Capital Management, L.P., the investment manager for Europa, exercises voting and dispositive power over the shares held by Europa, but disclaims any beneficial interest in the shares of our common stock owned by Europa except to the extent of his pecuniary interest therein.

(10) Includes 2,326,581 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding stock options, 2,638,928 shares issuable within 60 days of March 17, 2014 upon exercise of presently outstanding warrants (subject to the beneficial ownership limitation of certain of the warrants), and 4,997,728 shares issuable within 60 days of March 17, 2014 upon conversion of principal only of presently outstanding convertible notes (subject to the beneficial ownership limitation of the convertible notes).

(11) Consists of 2,200,844 shares held directly by Europa, 1,348,440 shares issuable to Europa within 60 days of March 17, 2014 upon exercise of presently outstanding warrants, and 4,780,337 shares issuable to Europa within 60 days of March 17, 2014 upon conversion of principal only of presently outstanding convertible notes. The aforementioned notes and the warrants prohibit Europa from converting the notes or exercising the warrants if after such conversion and/or exercise Europa would beneficially own more than 4.9% of our outstanding common stock. Europa's beneficial ownership is therefore limited to 4.9% of our outstanding common stock until such time as the shares issuable under the notes and the warrants, along with shares of our common stock held by Europa, constitute 4.9% or less of our outstanding common stock, or Europa elects to remove such restriction.

(12) Consists of 100,000 shares held directly by ACT Capital Management, LLLP, 1,070,000 shares held directly by ACT Capital Partners, LP, 1,200,000 shares held directly by Amir L. Ecker, 150,000 shares held directly by Maria T. Ecker, 115,000 shares held directly by Amir L. Ecker and Maria T. Ecker Joint Tenants, 150,000 shares held directly by The Ecker Family Partnership, 300,000 shares held directly by Delaware Charter G & T cust FBO Amir L. Ecker IRA, 1,529,130 shares issuable within 60 days of March 17, 2014 upon the exercise of presently outstanding warrants and 1,413,444 shares issuable within 60 days of March 17, 2014 upon conversion of principal only of presently outstanding convertible notes. The aforementioned notes and the warrants prohibit the holder from converting the notes or exercising the warrants if after such conversion and/or exercise the holder would beneficially own more than 4.9% of our outstanding common stock. The holder's beneficial ownership is therefore limited to 4.9% of our outstanding common stock until such time as the shares issuable under the notes and the warrants, along with shares of our common stock held by the holder, constitute 4.9% or less of our outstanding common stock, or the holder elects to remove such restriction. ACT Capital Management, LLLP controls the shares held by the foregoing stockholders. Investment decisions made on behalf of ACT Capital Management, LLLP are made by its General Partners Amir L. Ecker and Carol G. Frankenfield. ACT Capital Management, LLLP, Amir L. Ecker and Carol G. Frankenfield may be deemed the beneficial owner of the shares held by the foregoing stockholders but disclaim beneficial ownership in such shares except to the extent of their pecuniary interest there in.

(13) Consists of 100,000 shares held directly by ACT Capital Management, LLLP, 1,070,000 shares held directly by ACT Capital Partners, LP, 1,200,000 shares held directly by Amir L. Ecker, 150,000 shares held directly by Maria T. Ecker, 115,000 shares held directly by Amir L. Ecker and Maria T. Ecker Joint Tenants, 150,000 shares held directly by The Ecker Family Partnership, 300,000 shares held directly by Delaware Charter G & T cust FBO Amir L. Ecker IRA, 10,000 shares held directly by Carol G. Frankenfield, 1,529,130 shares issuable within 60 days of March 17, 2014 upon the exercise of presently outstanding warrants and 1,413,444 shares issuable within 60 days of March 17, 2014 upon conversion of principal only of presently outstanding convertible notes. The aforementioned notes and the warrants prohibit the holder from converting the notes or exercising the warrants if after such conversion and/or exercise the holder would beneficially own more than 4.9% of our outstanding common stock. The holder's beneficial ownership is therefore limited to 4.9% of our outstanding common stock until such time as the shares issuable under the notes and the warrants, along with shares of our common stock held by the holder, constitute 4.9% or less of our outstanding common stock, or the holder elects to remove such restriction. ACT Capital Management, LLLP controls the shares held by the foregoing stockholders. Investment decisions made on behalf of ACT Capital Management, LLLP are made by its General Partners Amir L. Ecker and Carol G. Frankenfield. ACT Capital Management, LLLP, Amir L. Ecker and Carol G. Frankenfield may be deemed the beneficial owner of the shares held by the foregoing stockholders but disclaim beneficial

ownership in such shares except to the extent of their pecuniary interest there in.

Change in Control Arrangements

To our knowledge there are no arrangements which may result in a change in control of our company at a subsequent date.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Other than the transactions described below, since January 1, 2012, there has not been, nor is there currently proposed, any transaction or series of similar transactions to which we were or will be a party:

- in which the amount involved exceeds the lesser of $120,000 or one percent of the average of our total assets at year end for the last two completed fiscal years; and

- in which any director, executive officer, stockholder who beneficially owns 5% or more of our common stock or any member of their immediate family had or will have a direct or indirect material interest.

On May 13, 2010, we issued to Europa a note in the aggregate principal amount of $500,000, with a conversion price of approximately $0.39 which was subsequently amended to $0.29, and certain common stock purchase warrants to purchase 636,266 shares of our common stock at a per share exercise price of approximately $0.39 per share. Fred Knoll is a director of our company and the principal of Knoll Capital Management, L.P., the investment manager for Europa.

On September 4, 2012 and October 1, 2012, we issued a 2.5% Senior Secured Convertible Note to Europa for gross proceeds of $416,666.66. The note was issued pursuant to the exercise of certain rights to cause our company to sell to Europa an aggregate of $500,000 in additional notes (substantially in the form of the Second Amended Notes). We issued a remaining note in an aggregate principal amount of $250,000.00 to Europa on October 31, 2012.

In March 2013, a controlling stockholder sold a total of 1,624,999 shares of common stock to certain directors of the Company. As the shares of common stock were sold at a price lower than the market price, the Company considered this transaction as contribution of capital and recorded compensation expense amounting to $422,500 to record the difference between the sales price and market price at the date of sale. In addition, the controlling stockholder also transferred, at no cost, 95,000 shares of common stock to certain officers and directors of the Company. The Company considered this transaction as contribution of capital and recorded compensation expense amount to $58,900 to account for the fair value of the shares of common stock at the date of transfer.

Accounts payable includes $50,841 and $17,533 as December 31, 2013 and 2012, respectively, that are payable to our officers and directors. Such payables include management consulting and directors’ fees incurred but not paid during the respective periods then ended.

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description of CAPITAL STOCK

As of March 17, 2014, our authorized capital stock consisted of:

- 100,000,000 shares of common stock, par value $0.0001 per share; and
- 10,000,000 shares of preferred stock, par value $0.0001 per share.

As of March 17, 2014, there were outstanding:

- 41,584,020 shares of common stock;
- options to purchase 5,689,498 shares of common stock;
- warrants to purchase 13,083,934 shares of common stock;
- notes convertible into 15,594,960 shares of common stock (including 2,046,050 shares accounting for accrued interest through maturity); and
- no shares of preferred stock.

Common Stock

Dividend Rights

Subject to preferences that may apply to shares of preferred stock outstanding at the time, the holders of outstanding shares of our common stock are entitled to receive dividends out of funds legally available at the times and in the amounts that our board of directors may determine.

Voting Rights

Each holder of common stock is entitled to one vote for each share of common stock held on all matters submitted to a vote of stockholders. Cumulative voting for the election of directors is not provided for in our amended and restated certificate of incorporation, which means that the holders of a majority of the voting shares voted can elect all of the directors then standing for election.

No Preemptive or Similar Rights

Holders of our common stock do not have preemptive rights, and our common stock is not convertible or redeemable.

Right to Receive Liquidation Distributions

Upon our dissolution, liquidation or winding-up, the assets legally available for distribution to our stockholders are distributable ratably among the holders of our common stock, subject to the preferential rights and payment of liquidation preferences, if any, on any outstanding shares of preferred stock.

Authorized but Undesignated Preferred Stock

We are authorized, subject to limitations prescribed by Delaware law, to issue preferred stock in one or more series, to establish from time to time the number of shares to be included in each series, to fix the designation, powers, preferences and rights of the shares of each series and any of its qualifications, limitations or restrictions. Our board of directors can also increase or decrease the number of shares of any series, but not below the number of shares of that series then outstanding, by the affirmative vote of the holders of a majority of our capital stock entitled to vote, unless a vote of any other holders is required by our amended and restated certificate of incorporation or the Delaware General Corporation Law. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of our company and may adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock. We have no current plan to issue any shares of preferred stock.

Warrants, Options and Convertible Notes

At March 17, 2014, there were outstanding warrants exercisable to purchase shares of our common stock, as follows:

13,083,934 shares at an exercise price of approximately $0.45 per share, with expiration dates ranging from March 29, 2014 through February 12, 2024.

At March 17, 2014, there were outstanding options exercisable to purchase shares of our common stock, as follows:

5,689,498 shares at an exercise price of approximately $0.83 per share, which will expire on dates ranging from January 7, 2017 through September 24, 2020.

At March 17, 2014, there were outstanding notes convertible (including accrued interest through maturity) into shares of our common stock, as follows:

1,623,599 shares at a conversion price of $0.29 per share, which will mature on May 13, 2014; and

1,279,890 shares at a conversion price of $0.29 per share, which will mature on September 3, 2016; and

1,265,964 shares at a conversion price of $0.29 per share, which will mature on September 30, 2016; and

1,898,946 shares at a conversion price of $0.29 per share, which will mature on October 30, 2016; and

9,801,897 shares at a conversion price of $0.23 per share, which will mature on February 11, 2017.

Anti-takeover Provisions

Certain provisions of our amended and restated certificate of incorporation and Delaware law may have the effect of delaying, deferring or discouraging another person from acquiring control of our company.

Charter and Bylaw Provisions

Our amended and restated certificate of incorporation allows our board of directors to issue 10,000,000 shares of preferred stock in one or more series and with such rights and preferences including voting rights, without further stockholder approval. In the event that our board of directors designates additional series of preferred stock with rights and preferences, including super-majority voting rights, and issues such preferred stock, the preferred stock could make our acquisition by means of a tender offer, a proxy contest or otherwise, more difficult, and could also make the removal of incumbent officers and directors more difficult. As a result, these provisions may have an anti-takeover effect. The preferred stock authorized in our amended and restated certificate of incorporation may inhibit changes of control that are not approved by our board of directors. These provisions could limit the price that future investors might be willing to pay for our common stock. This could have the effect of delaying, deferring or preventing a change in control. The issuance of preferred stock could also effectively limit or dilute the voting power of our stockholders. Accordingly, such provisions of our amended and restated certificate of incorporation may discourage or prevent an acquisition or disposition of our business that could otherwise be in the best interest of our stockholders.

Delaware Law

In addition, Delaware has enacted the following legislation that may deter or frustrate takeovers of Delaware corporations:

The Delaware General Corporation Law expressly permits our board of directors, when evaluating any proposed tender or exchange offer, any merger, consolidation or sale of substantially all of our assets, or any similar extraordinary transaction, to consider all relevant factors including, without limitation, the social, legal, and economic effects on the employees, customers, suppliers, and other constituencies of our company and its subsidiary, and on the communities and geographical areas in which they operate. Our board of directors may also consider the amount of consideration being offered in relation to the then current market price for our outstanding shares of common stock and our then current value in a freely negotiated transaction. Our board of directors believes such provisions are in our long-term best interests and the long-term best interests of our stockholders.

We are subject to the Delaware control share acquisitions statute. This statute is designed to afford stockholders of public corporations in Delaware protection against acquisitions in which a person, entity or group seeks to gain voting control. With enumerated exceptions, the statute provides that shares acquired within certain specific ranges will not possess voting rights in the election of directors unless the voting rights are approved by a majority vote of the public corporation's disinterested stockholders. Disinterested shares are shares other than those owned by the acquiring person or by a member of a group with respect to a control share acquisition, or by any officer of the corporation or any employee of the corporation who is also a director. The specific acquisition ranges that trigger the statute are: acquisitions of shares possessing one-fifth or more but less than one-third of all voting power; acquisitions of shares possessing one-third or more but less than a majority of all voting power; or acquisitions of shares possessing a majority or more of all voting power. Under certain circumstances, the statute permits the acquiring person to call a special stockholders meeting for the purpose of considering the grant of voting rights to the holder of the control shares. The statute also enables a corporation to provide for the redemption of control shares with no voting rights under certain circumstances.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Securities Transfer Corporation, 2591 Dallas Parkway, Suite 102, Frisco, Texas 75034.

Listing

Our common stock is presently quoted on the OTCQB under the trading symbol “AHRO.” We intend to apply to list our common stock on the NYSE MKT under the same symbol.

UNDERWRITING

Aegis Capital Corp. is acting as the lead underwriter of the offering and as representative of the underwriters, or the Representative. We have entered into an underwriting agreement, dated , 2014, with the Representative. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to each underwriter named below and each underwriter named below has severally and not jointly agreed to purchase from us, at the public offering price per share less the underwriting discounts set forth on the cover page of this prospectus, the number of shares of common stock listed next to its name in the following table:

Name of Underwriter	Number of Shares
Aegis Capital Corp.	
Total	

The underwriters are committed to purchase all the shares of common stock offered by us other than those covered by the option to purchase additional shares described below, if they purchase any shares. The obligations of the underwriters may be terminated upon the occurrence of certain events specified in the underwriting agreement. Furthermore, pursuant to the underwriting agreement, the underwriters' obligations are subject to customary conditions, representations and warranties contained in the underwriting agreement, such as receipt by the underwriters of officers' certificates and legal opinions.

We have agreed to indemnify the underwriters against specified liabilities, including liabilities under the Securities Act, and to contribute to payments the underwriters may be required to make in respect thereof.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel and other conditions specified in the underwriting agreement. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Over-Allotment Option. We have granted the underwriters an over-allotment option. This option, which is exercisable for up to 45 days after the date of this prospectus, permits the underwriters to purchase a maximum of additional shares (15% of the shares sold in this offering) from us to cover over-allotments, if any. If the underwriters exercise all or part of this option, they will purchase shares covered by the option at the public offering price per share that appears on the cover page of this prospectus, less the underwriting discount. If this option is exercised in full, the total price to the public will be $ and the total net proceeds, before expenses, to us will be $.

Discount. The following table shows the public offering price, underwriting discount and proceeds, before expenses, to us. The information assumes either no exercise or full exercise by the underwriters of their over-allotment option.

	Per Share	Total Without Over-Allotment Option	Total With Over-Allotment Option
Public offering price	$	$	$
Underwriting discount (%)	$	$	$
Non-accountable expense allowance (1 %)(1)	$	$	$
Proceeds, before expenses, to us	$	$	$

(1) The expense allowance of 1% is not payable with respect to the shares sold upon exercise of the underwriter's over-allotment option.

The underwriters propose to offer the shares offered by us to the public at the public offering price per share set forth on the cover of this prospectus. In addition, the underwriters may offer some of the shares to other securities dealers at such price less a concession of $ per share. After the initial offering, the public offering price and concession to dealers may be changed.

We have paid an aggregate expense deposit of $25,000 to the Representative for out-of-pocket- accountable expenses which will be applied against the 1% non-accountable expense allowance. The underwriting agreement, however, provides that in the event the offering is terminated, the $25,000 expense deposit paid to the underwriter will be returned to the extent such out-of-pocket accountable expenses are not actually incurred in accordance with FINRA Rule 5110(f)(2)(C).

We have also agreed to pay certain of the Representative's expenses relating to the offering, including: (1) all Public Filing System filing fees associated with the review of the offering by FINRA; (2) all fees, expenses incurred by the Representative in conducting background checks of our directors and officers in an amount not to exceed $1,500 per individual; (3) the fees and expenses of the Representative's legal counsel up to a maximum of $50,000, but exclusive of the fees relating to the registration or qualification of the shares under the "blue sky" securities laws; (4) the $21,775 cost associated with the Representative's use of Ipreo's book-building, prospectus tracking and compliance software for the offering; (5) up to $20,000 of the Representative's actual accountable "road show" expenses for the offering. We have also agreed that Representative's counsel will act as our "blue sky" counsel and receive a fee that shall not exceed $15,000 in connection therewith; and (6) the fees and expenses if the offering is commenced on the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market or the NYSE Amex or on such other stock exchanges as is agreed upon.

We estimate that the total expenses of the offering payable by us, excluding the underwriting discount, will be approximately $.

Discretionary Accounts. The underwriters do not intend to confirm sales of the securities offered hereby to any accounts over which they have discretionary authority.

Lock-Up Agreements. Pursuant to certain "lock-up" agreements, we, our executive officers and directors, and holders of 5% or more of our outstanding shares of common stock have agreed, subject to certain exceptions, not to offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of or announce the intention to otherwise dispose of, or enter into any swap, hedge or similar agreement or arrangement that transfers, in whole or in part, the economic risk of ownership of, directly or indirectly, engage in any short selling of any common stock or securities convertible into or exchangeable or exercisable for any common stock, whether currently owned or subsequently acquired, without the prior written consent of the Representative, for a period of three months from the date of effectiveness of the offering.

In addition, we have agreed with the Representative that for a period of three months following the date of effectiveness of the offering, we will not offer, sell, assign, transfer, pledge, contract to sell or otherwise dispose of, or hedge, any shares of our common stock or any securities convertible into or exchangeable for shares of our common stock, subject to specified exceptions. The Representative may, in its sole discretion, waive this prohibition. The restriction is not applicable to shares issuable upon conversion or exercise of any existing securities.

The restricted period described in the preceding paragraph will be extended if:

• during the last 17 days of the restricted period we issue a release regarding earnings or regarding material news or events relating to us; or

• prior to the expiration of the restricted period, we announce that we will release earnings results during the 16-day period beginning on the last day of the period, in which case the restrictions described in the preceding paragraph will continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event.

Underwriter's Warrants. We have agreed to issue to the Representative warrants to purchase up to a total of shares of common stock (5% of the shares of common stock sold in this offering, including the over-allotment option). The warrants will be exercisable at any time, and from time to time, in whole or in part, during the four-year period commencing one year from the effective date of the offering, which period shall not extend further than five years from the effective date of the offering in compliance with FINRA Rule 5110(f)(2)(H)(i). The warrants are exercisable at a per share price equal to $ per share, or 125% of the public offering price per share in the offering. The warrants have been deemed compensation by FINRA and are therefore subject to a 180 day lock-up pursuant to Rule 5110(g)(1) of FINRA. The underwriter (or permitted assignees under Rule 5110(g)(1)) will not sell, transfer, assign, pledge, or hypothecate these warrants or the securities underlying these warrants, nor will they engage in any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the warrants or the underlying securities for a period of 180 days from the date of effectiveness. In addition, the warrants provide for registration rights upon request, in certain cases. The demand registration right provided will not be greater than five years from the effective date of the offering in compliance with FINRA Rule 5110(f)(2)(H)(iv). The piggyback registration right provided will not be greater than seven years from the effective date of the offering in compliance with FINRA Rule 5110(f)(2)(H)(v). We will bear all fees and expenses attendant to registering the securities issuable on exercise of the warrants other than underwriting commissions incurred and payable by the holders. The exercise price and number of shares issuable upon exercise of the warrants may be adjusted in certain circumstances including in the event of a stock dividend or our recapitalization, reorganization, merger or consolidation. However, the warrant exercise price or underlying shares will not be adjusted for issuances of shares of common stock at a price below the warrant exercise price.

Right of First Refusal. The underwriting agreement will provide that until twelve (12) months after the date of effectiveness of the offering the Representative will have a right of first refusal to act as exclusive financial advisor, lead managing underwriter and/or book runner and investment banker for each and every future public offering and private equity and public debt offering by the Company or any successor to or any subsidiary of the Company.

Listing. Our common stock is presently quoted on the OTCQB under the symbol "AHRO." We intend to apply to list our common stock on the NYSE MKT under the same symbol.

Electronic Offer, Sale and Distribution of Shares. A prospectus in electronic format may be made available on the websites maintained by one or more of the underwriters or selling group members, if any, participating in this offering and one or more of the underwriters participating in this offering may distribute prospectuses electronically. The Representative may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters and selling group members that will make internet distributions on the same basis as other allocations. Other than the prospectus in electronic format, the information on these websites is not part of, nor incorporated by reference into, this prospectus or the registration statement of which this prospectus forms a part, has not been approved or endorsed by us or any underwriter in its capacity as underwriter, and should not be relied upon by investors.

Stabilization. In connection with this offering, the underwriters may engage in stabilizing transactions, over-allotment transactions, syndicate-covering transactions, penalty bids and purchases to cover positions created by short sales.

Stabilizing transactions permit bids to purchase shares so long as the stabilizing bids do not exceed a specified maximum, and are engaged in for the purpose of preventing or retarding a decline in the market price of the shares while the offering is in progress.

Over-allotment transactions involve sales by the underwriters of shares in excess of the number of shares the underwriters are obligated to purchase. This creates a syndicate short position which may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriters is not greater than the number of shares that they may purchase in the over-allotment option. In a naked short position, the number of shares involved is greater than the number of shares in the over-allotment option. The underwriters may close out any short position by exercising their over-allotment option and/or purchasing shares in the open market.

Syndicate covering transactions involve purchases of shares in the open market after the distribution has been completed in order to cover syndicate short positions. In determining the source of shares to close out the short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared with the price at which they may purchase shares through exercise of the over- allotment option. If the underwriters sell more shares than could be covered by exercise of the over-allotment option and, therefore, have a naked short position, the position can be closed out only by buying shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that after pricing there could be downward pressure on the price of the shares in the open market that could adversely affect investors who purchase in the offering.

Penalty bids permit the Representative to reclaim a selling concession from a syndicate member when the shares originally sold by that syndicate member are purchased in stabilizing or syndicate covering transactions to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our shares or common stock or preventing or retarding a decline in the market price of our shares or common stock. As a result, the price of our common stock in the open market may be higher than it would otherwise be in the absence of these transactions. Neither we nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the price of our common stock. These transactions may be effected on the NYSE MKT or otherwise and, if commenced, may be discontinued at any time.

Passive market making. In connection with this offering, underwriters and selling group members may engage in passive market making transactions in our common stock on the NYSE MKT in accordance with Rule 103 of Regulation M under the Exchange Act, during a period before the commencement of offers or sales of the shares and extending through the completion of the distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, then that bid must then be lowered when specified purchase limits are exceeded.

Other Relationships. Certain of the underwriters and their affiliates have provided, and may in the future provide, various investment banking, commercial banking and other financial services for us and our affiliates for which they have received, and may in the future receive, customary fees. However, except as disclosed in this prospectus, we have no present arrangements with any of the underwriters for any further services.

Offer restrictions outside the United States

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

Australia

This prospectus is not a disclosure document under Chapter 6D of the Australian Corporations Act, has not been lodged with the Australian Securities and Investments Commission and does not purport to include the information required of a disclosure document under Chapter 6D of the Australian Corporations Act. Accordingly, (i) the offer of

the securities under this prospectus is only made to persons to whom it is lawful to offer the securities without disclosure under Chapter 6D of the Australian Corporations Act under one or more exemptions set out in section 708 of the Australian Corporations Act, (ii) this prospectus is made available in Australia only to those persons as set forth in clause (i) above, and (iii) the offeree must be sent a notice stating in substance that by accepting this offer, the offeree represents that the offeree is such a person as set forth in clause (i) above, and, unless permitted under the Australian Corporations Act, agrees not to sell or offer for sale within Australia any of the securities sold to the offeree within 12 months after its transfer for the offeree under this prospectus.

China

The information in this document does not constitute a public offer of the securities, whether by way of sale or subscription, in the People's Republic of China (excluding, for purposes of this paragraph, Hong Kong Special Administrative Region, Macau Special Administrative Region and Taiwan). The securities may not be offered or sold directly or indirectly in the PRC to legal or natural persons other than directly to "qualified domestic institutional investors."

European Economic Area—Belgium, Germany, Luxembourg and Netherlands

The information in this document has been prepared on the basis that all offers of securities will be made pursuant to an exemption under the Directive 2003/71/EC ("Prospectus Directive"), as implemented in Member States of the European Economic Area (each, a "Relevant Member State"), from the requirement to produce a prospectus for offers of securities.

An offer to the public of securities has not been made, and may not be made, in a Relevant Member State except pursuant to one of the following exemptions under the Prospectus Directive as implemented in that Relevant Member State:

(a) to legal entities that are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;

(b) to any legal entity that has two or more of (i) an average of at least 250 employees during its last fiscal year; (ii) a total balance sheet of more than €43,000,000 (as shown on its last annual unconsolidated or consolidated financial statements) and (iii) an annual net turnover of more than €50,000,000 (as shown on its last annual unconsolidated or consolidated financial statements);

(c) to fewer than 100 natural or legal persons (other than qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive) subject to obtaining the prior consent of the Company or any underwriter for any such offer; or

(d) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of securities shall result in a requirement for the publication by the Company of a prospectus pursuant to Article 3 of the Prospectus Directive.

France

This document is not being distributed in the context of a public offering of financial securities (offre au public de titres financiers) in France within the meaning of Article L.411-1 of the French Monetary and Financial Code (Code monétaire et financier) and Articles 211-1 et seq. of the General Regulation of the French Autorité des marchés financiers ("AMF"). The securities have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France.

This document and any other offering material relating to the securities have not been, and will not be, submitted to the AMF for approval in France and, accordingly, may not be distributed or caused to distributed, directly or indirectly, to the public in France.

Such offers, sales and distributions have been and shall only be made in France to (i) qualified investors (investisseurs qualifiés) acting for their own account, as defined in and in accordance with Articles L.411-2-II-2° and D.411-1 to D.411-3, D.744-1, D.754-1 and D.764-1 of the French Monetary and Financial Code and any implementing regulation and/or (ii) a restricted number of non-qualified investors (cercle restreint d'investisseurs) acting for their own account, as defined in and in accordance with Articles L.411-2-II-2° and D.411-4, D.744-1, D.754-1 and D.764-1 of the French Monetary and Financial Code and any implementing regulation.

Pursuant to Article 211-3 of the General Regulation of the AMF, investors in France are informed that the securities cannot be distributed (directly or indirectly) to the public by the investors otherwise than in accordance with Articles L.411-1, L.411-2, L.412-1 and L.621-8 to L.621-8-3 of the French Monetary and Financial Code.

Ireland

The information in this document does not constitute a prospectus under any Irish laws or regulations and this document has not been filed with or approved by any Irish regulatory authority as the information has not been prepared in the context of a public offering of securities in Ireland within the meaning of the Irish Prospectus (Directive 2003/71/EC) Regulations 2005 (the "Prospectus Regulations"). The securities have not been offered or sold, and will not be offered, sold or delivered directly or indirectly in Ireland by way of a public offering, except to (i) qualified investors as defined in Regulation 2(l) of the Prospectus Regulations and (ii) fewer than 100 natural or legal persons who are not qualified investors.

Israel

The securities offered by this prospectus have not been approved or disapproved by the Israeli Securities Authority, or the ISA, nor have such securities been registered for sale in Israel. The shares may not be offered or sold, directly or indirectly, to the public in Israel, absent the publication of a prospectus. The ISA has not issued permits, approvals or licenses in connection with the offering or publishing the prospectus; nor has it authenticated the details included herein, confirmed their reliability or completeness, or rendered an opinion as to the quality of the securities being offered. Any resale in Israel, directly or indirectly, to the public of the securities offered by this prospectus is subject to restrictions on transferability and must be effected only in compliance with the Israeli securities laws and regulations.

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Italy

The offering of the securities in the Republic of Italy has not been authorized by the Italian Securities and Exchange Commission (Commissione Nazionale per le Società e la Borsa, "CONSOB") pursuant to the Italian securities legislation and, accordingly, no offering material relating to the securities may be distributed in Italy and such securities may not be offered or sold in Italy in a public offer within the meaning of Article 1.1(t) of Legislative Decree No. 58 of 24 February 1998 ("Decree No. 58"), other than:

- to Italian qualified investors, as defined in Article 100 of Decree no. 58 by reference to Article 34-ter of CONSOB Regulation no. 11971 of 14 May 1999 ("Regulation no. 1197l") as amended ("Qualified Investors"); and

- in other circumstances that are exempt from the rules on public offer pursuant to Article 100 of Decree No. 58 and Article 34-ter of Regulation No. 11971 as amended.

Any offer, sale or delivery of the securities or distribution of any offer document relating to the securities in Italy (excluding placements where a Qualified Investor solicits an offer from the issuer) under the paragraphs above must be:

- made by investment firms, banks or financial intermediaries permitted to conduct such activities in Italy in accordance with Legislative Decree No. 385 of 1 September 1993 (as amended), Decree No. 58, CONSOB Regulation No. 16190 of 29 October 2007 and any other applicable laws; and

- in compliance with all relevant Italian securities, tax and exchange controls and any other applicable laws.

Any subsequent distribution of the securities in Italy must be made in compliance with the public offer and prospectus requirement rules provided under Decree No. 58 and the Regulation No. 11971 as amended, unless an exception from those rules applies. Failure to comply with such rules may result in the sale of such securities being declared null and void and in the liability of the entity transferring the securities for any damages suffered by the investors.

Japan

The securities have not been and will not be registered under Article 4, paragraph 1 of the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948), as amended (the "FIEL") pursuant to an exemption from the registration requirements applicable to a private placement of securities to Qualified Institutional Investors (as defined in and in

accordance with Article 2, paragraph 3 of the FIEL and the regulations promulgated thereunder). Accordingly, the securities may not be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan other than Qualified Institutional Investors. Any Qualified Institutional Investor who acquires securities may not resell them to any person in Japan that is not a Qualified Institutional Investor, and acquisition by any such person of securities is conditional upon the execution of an agreement to that effect.

Portugal

This document is not being distributed in the context of a public offer of financial securities (oferta pública de valores mobiliários) in Portugal, within the meaning of Article 109 of the Portuguese Securities Code (Código dos Valores Mobiliários). The securities have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in Portugal. This document and any other offering material relating to the securities have not been, and will not be, submitted to the Portuguese Securities Market Commission (Comissão do Mercado de Valores Mobiliários) for approval in Portugal and, accordingly, may not be distributed or caused to distributed, directly or indirectly, to the public in Portugal, other than under circumstances that are deemed not to qualify as a public offer under the Portuguese Securities Code. Such offers, sales and distributions of securities in Portugal are limited to persons who are “qualified investors” (as defined in the Portuguese Securities Code). Only such investors may receive this document and they may not distribute it or the information contained in it to any other person.

Sweden

This document has not been, and will not be, registered with or approved by Finansinspektionen (the Swedish Financial Supervisory Authority). Accordingly, this document may not be made available, nor may the securities be offered for sale in Sweden, other than under circumstances that are deemed not to require a prospectus under the Swedish Financial Instruments Trading Act (1991:980) (Sw. lag (1991:980) om handel med finansiella instrument). Any offering of securities in Sweden is limited to persons who are "qualified investors" (as defined in the Financial Instruments Trading Act). Only such investors may receive this document and they may not distribute it or the information contained in it to any other person.

Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange ("SIX") or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering material relating to the securities may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering material relating to the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority.

This document is personal to the recipient only and not for general circulation in Switzerland.

United Arab Emirates

Neither this document nor the securities have been approved, disapproved or passed on in any way by the Central Bank of the United Arab Emirates or any other governmental authority in the United Arab Emirates, nor has the Company received authorization or licensing from the Central Bank of the United Arab Emirates or any other governmental authority in the United Arab Emirates to market or sell the securities within the United Arab Emirates. This document does not constitute and may not be used for the purpose of an offer or invitation. No services relating to the securities, including the receipt of applications and/or the allotment or redemption of such shares, may be

rendered within the United Arab Emirates by the Company.

No offer or invitation to subscribe for securities is valid or permitted in the Dubai International Financial Centre.

United Kingdom

Neither the information in this document nor any other document relating to the offer has been delivered for approval to the Financial Services Authority in the United Kingdom and no prospectus (within the meaning of section 85 of the Financial Services and Markets Act 2000, as amended ("FSMA")) has been published or is intended to be published in respect of the securities. This document is issued on a confidential basis to "qualified investors" (within the meaning of section 86(7) of FSMA) in the United Kingdom, and the securities may not be offered or sold in the United Kingdom by means of this document, any accompanying letter or any other document, except in circumstances which do not require the publication of a prospectus pursuant to section 86(1) FSMA.

This document should not be distributed, published or reproduced, in whole or in part, nor may its contents be disclosed by recipients to any other person in the United Kingdom.

Any invitation or inducement to engage in investment activity (within the meaning of section 21 of FSMA) received in connection with the issue or sale of the securities has only been communicated or caused to be communicated and will only be communicated or caused to be communicated in the United Kingdom in circumstances in which section 21(1) of FSMA does not apply to us.

In the United Kingdom, this document is being distributed only to, and is directed at, persons (i) who have professional experience in matters relating to investments falling within Article 19(5) (investment professionals) of the Financial Services and Markets Act 2000 (Financial Promotions) Order 2005 ("FPO"), (ii) who fall within the categories of persons referred to in Article 49(2)(a) to (d) (high net worth companies, unincorporated associations, etc.) of the FPO or (iii) to whom it may otherwise be lawfully communicated (together "relevant persons"). The investments to which this document relates are available only to, and any invitation, offer or agreement to purchase will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this document or any of its contents.

EXPERTS

Our financial statements for the years ended December 31, 2013 and 2012 and for the period December 13, 2006 (inception) to December 31, 2013 included in this prospectus and registration statement have been audited by Weinberg & Company, P.A. independent registered public accounting firm, as stated in their reports appearing herein, and are included in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

LEGAL MATTERS

Stradling, Yocca, Carlson & Rauth, P. C., Newport Beach, California, will pass upon the validity of the common stock offered by this prospectus for us. Certain legal matters in connection with this offering will be passed upon for the underwriters by Loeb & Loeb LLP, New York, New York.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. We have also filed with the SEC under the Securities Act a registration statement on Form S-1 with respect to the common stock offered by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all the information set forth in the registration statement or the exhibits and schedules which are part of the registration statement, portions of which are omitted as permitted by the rules and regulations of the SEC. Statements made in this prospectus regarding the contents of any contract or other document are summaries of the material terms of the contract or document. With respect to each contract or document filed as an exhibit to the registration statement, reference is made to the corresponding exhibit. For further information pertaining to us and the common stock offered by this prospectus, reference is made to the registration statement, including the exhibits and schedules thereto, and any document we file with the SEC, copies of which may be inspected without charge at the public reference facilities of the SEC at 100 F Street, N.E., Washington, D.C. 20549. Copies of all or any portion of the registration statement and any other document that we file with the SEC may be obtained from the SEC at prescribed rates. Information on the public reference facilities may be obtained by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains a website that contains reports, proxy and information statements and other information that is filed electronically with the SEC. The web site can be accessed at *http://www.sec.gov*. The information on the SEC's website is not part of this prospectus, and any references to this website or any other website are inactive textual references only.

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AtheroNova Inc.
(A Development Stage Company)

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors

AtheroNova Inc.

Irvine, California

We have audited the accompanying consolidated balance sheets of AtheroNova Inc. and subsidiary (a development stage company) as of December 31, 2013 and 2012, and the related consolidated statements of operations, stockholders' equity (deficit) and cash flows for the years then ended and for the period from December 13, 2006 (inception) to December 31, 2013. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that we considered appropriate under the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of AtheroNova Inc. and subsidiary as of December 31, 2013 and 2012, and the results of their operations and their cash flows for the years then ended and for the period from December 13, 2006 (inception) to December 31, 2013, in conformity with accounting principles generally accepted in the United States of America.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2, the Company is in the development stage and has not generated any revenues from operations to date, and does not expect to do so in the foreseeable future. The Company has experienced recurring operating losses and negative operating cash flows since inception, and has financed its working capital requirements through the recurring sale of its convertible notes and equity securities. These conditions raise

substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 2 to the consolidated financial statements. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ WEINBERG & COMPANY, P.A.

WEINBERG & COMPANY, P.A.

Los Angeles, California

February 27, 2014

ATHERONOVA INC. AND SUBSIDIARY

(A Development Stage Company)

Consolidated Balance Sheets

	December 31, 2013	December 31, 2012
Assets		
Current Assets		
Cash	$266,210	$2,744,046
Other current assets	22,438	17,622
Total Current Assets	288,648	2,761,668
Equipment, net	7,405	8,514
Deposits and other assets	12,777	23,777
Total Assets	$308,830	$2,793,959
Liabilities and Stockholders' Equity (Deficit)		
Current Liabilities		
Accounts payable and accrued expenses	$811,404	$603,629
Interest payable	76,462	37,016
Current portion of 2.5% Senior convertible note, net of discount of $37,377	390,123	--
Total Current Liabilities	1,277,989	640,645
2.5% Senior secured convertible notes	1,170,333	1,762,833
Discount on convertible notes	(807,200)	(1,402,030)
2.5% Senior secured convertible notes, net of discount	363,133	360,803
Research & development costs payable in common stock-related party	1,170,712	--
Commitments and contingencies		
Stockholders' Equity (Deficit):		
Preferred stock, $0.0001 par value, 10,000,000 shares authorized, none outstanding at December 31, 2013 and 2012	--	--
Common stock, $0.0001 par value, 100,000,000 shares authorized, 41,584,020 and 37,223,640 outstanding at December 31, 2013 and , respectively	4,147	3,711
Additional paid in capital	19,522,643	16,003,872
Deficit accumulated during the development stage	(22,029,794)	(14,215,072)
Total Stockholders' Equity (Deficit)	(2,503,004)	1,792,511
Total Liabilities and Stockholders' Equity (Deficit)	$308,830	$2,793,959

See accompanying notes to consolidated financial statements.

ATHERONOVA INC. AND SUBSIDIARY

(A Development Stage Company)

Consolidated Statements of Operations

For the years ended December 31, 2013 and 2012, and

For the period from December 13, 2006 (Inception) through December 31, 2013

	Years ended December 31,		**Cumulative From Inception through December 31, 2013**
	2013	**2012**	
Revenue, net	$--	$--	$--
Operating expenses:			
Research and development	2,030,285	986,261	3,889,621
Research and development – related party	2,369,009	-	2,369,009
General and administrative	2,814,856	2,651,725	9,547,943
Impairment charge-intellectual property	--	--	572,868
Loss from operations	(7,214,150)	(3,637,986)	(16,379,441)
Other income (expense):			
Other income	2,457	2,832	8,839
Cancellation of related-party debt	--	--	100,000
Merger-related expenses	--	--	(323,294)
Interest expense	(601,664)	(871,431)	(2,481,178)
Private Placement Costs	--	--	(2,148,307)
Cost to induce conversion of 12% notes	--	(866,083)	(866,083)
Gain on extinguishment of derivative liabilities	--	97,975	909,368
Change in fair value of derivative liabilities	--	2,640,497	(839,569)
Total other income (expense)	(599,207)	1,003,790	(5,640,224)
Net loss before income taxes	(7,813,357)	(2,634,196)	(22,019,665)
Provision for income taxes	1,365	1,365	10,129
Net loss	$(7,814,722)	$(2,635,561)	$(22,029,794)
Loss per share – basic and diluted	$(0.20)	$(0.09)	

Weighted average shares outstanding – basic and diluted	39,730,289	30,635,249

See accompanying notes to consolidated financial statements.

ATHERONOVA INC. AND SUBSIDIARY

(A Development Stage Company)

Consolidated Statements of Stockholders' Equity (Deficit)

For the period from December 13, 2006 (Inception) through December 31, 2013

Description	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Deficit Accumulated During Development Stage	Total Stockholders' Equity (Deficit)
Issuance of common stock to founders	19,233,029	$ 1,923	$(1,923)	$--	$--
Net loss	--	--	--	--	--
Balance – December 31, 2007	19,233,029	1,923	(1,923)	--	--
Issuance of common stock for cash at $0.223 per share	1,010,132	101	224,899	--	225,000
Net loss	--	--	--	(173,623)	(173,623)
Balance – December 31, 2008	20,243,161	2,024	222,976	(173,623)	51,377
Issuance of common stock for cash at $0.223 per share	224,663	23	99,977	--	100,000
Fair value of common stock issued for services	224,284	22	49,978	--	50,000
Net Loss	--	--	--	(12,322)	(12,322)
Balance – December 31, 2009	20,692,108	2,069	372,931	(185,945)	189,055
Issuance of common stock for cash at $0.223 per share	1,010,132	101	224,899	--	225,000
Exercise of warrants	392,498	39	87,488	--	87,527
Fair value of common stock issued for services	466,570	47	140,453	--	140,500
Fair value of warrants issued for services	--	--	518,000	--	518,000
Contribution of stockholder notes payable to capital	--	--	200,000	--	200,000
Fair value of vested options	--	--	287,355	--	287,355
Shares issued in reverse merger	607,647	56	1,225	--	1,281
Shares issued upon note conversion	251,944	25	98,989	--	99,014
Net loss	--	--	--	(15,656,852)	(15,656,852)
Balance – December 31, 2010	23,420,899	2,337	1,931,340	(15,842,797)	(13,909,120)
Issuance of common stock for cash at $0.55 per share	3,145,695	311	1,729,830	--	1,730,141
Issuance of common stock for cash at $0.97 per share	154,639	15	149,985	--	150,000
Fair value of vested options	--	--	630,744	--	630,744
Fair value of common stock and warrants purchased by employees and vendors below of market price	--	--	309,417	--	309,417

Fair value of common stock and warrants issued to settle accounts payable	33,863	3	72,996	--	72,999
Fair value of common stock issued for services	50,000	5	72,495	--	72,500
Fair value of warrants issued for services	--	--	22,470	--	22,470
Common stock issued upon conversion of notes payable	1,585,164	157	473,541	--	473,698
Net income	--	--	--	4,263,286	4,263,286
Balance – December 31, 2011	28,390,260	2,828	$5,392,818	(11,579,511)	(6,183,865)

Issuance of common stock for cash at $0.50 per share	4,480,000	448	2,061,339	--	2,061,787
Fair value of vested options	--	--	803,770	--	803,770
Fair value of warrants issued with 12% convertible notes-	--	--	58,387	--	58,387
Fair value of warrants and beneficial conversion feature due to changes to 12% convertible notes upon modification	--	--	866,083	--	866,083
Fair value of beneficial conversion feature of 2.5% senior convertible notes	--	--	1,498,333	--	1,498,333
Fair value of derivative liability extinguished upon modification of the 2.5% convertible notes			3,472,549		3,472,549
Fair value of common stock issued to settle accounts payable	30,061	3	23,745	--	23,748
Fair value of common stock issued for services	459,600	46	256,054	--	256,100
Fair value of shares transferred to employees and vendors by controlling stockholder	--	--	123,050	--	123,050
Common stock issued upon conversion of notes payable	3,863,719	386	1,447,744	--	1,448,130
Net loss	--	--	--	(2,635,561)	(2,635,561)
Balance – December 31, 2012	37,223,640	3,711	16,003,872	(14,215,072)	1,792,511
Common stock issued upon exercise of warrants at $0.223 per share	859,235	86	149,961	--	150,047
Issuance of common stock for cash at $0.65 per share	800,002	80	519,921	--	520,001
Issuance of common stock for cash at $0.97 per share	120,619	12	116,988	--	117,000
Fair value of vested options and warrants	--	--	878,179	--	878,179
Fair value of common stock issued to settle accounts payable	6,456	--	4,518	--	4,518
Fair value of common stock issued for services	1,997,161	200	1,198,097	--	1,198,297
Fair value of shares transferred or sold to employees and directors by controlling stockholder	--	--	481,400	--	481,400
Common stock issued upon conversion of notes payable	576,907	58	169,707	--	169,765
Net loss	--	--	--	(7,814,722)	(7,814,722)
Balance – December 31, 2013	**41,584,020**	**$4,147**	**$19,522,643**	**$(22,029,794)**	**$(2,503,004)**

See accompanying notes to consolidated financial statements.

ATHERONOVA INC. AND SUBSIDIARY

(A Development Stage Company)

Consolidated Statements of Cash Flows

For the years ended December 31, 2013 and 2012, and

For the period from December 13, 2006 (Inception) through December 31, 2013

	Years ended December 31,		Cumulative From Inception through December 31, 2013
	2013	**2012**	
Operating Activities:			
Net loss	$(7,814,722)	$(2,635,561)	$(22,029,794)
Adjustments to reconcile net loss to net cash used in operating activities:			
Loss on settlement of accounts payables	6,980	44,356	105,713
Amortization of debt discount	557,453	769,185	2,266,942
Depreciation	4,169	3,399	11,674
Fair value of vested options and warrants	878,179	803,770	3,449,935
Fair value of common stock issued for services	1,198,297	256,100	1,717,397
Research and development costs payable in common stock	1,170,712	--	1,170,712
Fair value of shares transferred or sold to employees, directors and vendors by controlling stockholder	481,400	123,050	604,450
Impairment charge-intellectual property	--	--	572,867
Cost of private placement	--	--	2,148,307
Cost to induce conversion of 12% senior secured notes payable	--	866,083	866,083
Gain on extinguishment of derivative liabilities	--	(97,975)	(909,368)
Gain due to change in fair value of derivative liabilities	--	(2,640,497)	839,569
Gain due to cancellation of debt	--	--	(100,000)
Changes in operating assets and liabilities:			
Accounts payable and interest payable	249,524	482,152	1,087,561
Other current assets, deposits and other assets	6,184	(28,490)	(35,215)
Net cash used in operating activities	(3,261,824)	(2,054,428)	(8,233,167)
Investing Activities			
Purchase of equipment	(3,060)	(7,913)	(19,079)
Investment in intellectual property	--	--	(372,867)
Cash received from reverse merger	--	--	1,281
Net cash used in investing activities	(3,060)	(7,913)	(390,665)
Financing Activities			
Proceeds from issuance of common stock, net	787,048	2,061,787	5,366,503
Proceeds from 12% convertible notes-net		645,200	645,200

Repayment of convertible notes-short term		(15,000)	(15,000)
Proceeds from sale of 2.5% senior secured convertible notes, net	--	1,498,333	2,893,339
Net cash provided by financing activities	787,048	4,190,320	8,890,042
Net change in cash	(2,477,836)	2,127,979	266,210
Cash - beginning balance	2,744,046	616,067	--
Cash - ending balance	**$266,210**	**$2,744,046**	**$266,210**
Supplemental disclosure of cash flow information:			
Cash paid for interest	--	--	32,666
Cash paid for income taxes	$1,365	$1,365	$10,129
Supplemental disclosure of non-cash investing and financing transactions:			
Stockholder notes issued in exchange for intellectual property	$--	$--	$200,000
Conversion of convertible notes payable and accrued interest to equity	$169,765	$1,448,130	$2,190,616
Derivative liability created upon issuance of the 2.5% senior secured convertible notes and attached warrants	$--	$--	$1,500,000
Conversion of accounts payable to related party notes	$--	$--	$100,000
Fair value of warrants and beneficial conversion feature associated with issued convertible notes	$--	$1,556,720	$1,556,720
Common stock issued to settle accounts payable	$9,283	$23,748	$106,030
Fair value of derivative liability extinguished upon modification of the 2.5% convertible notes	$--	$3,472,549	$3,472,549

See accompanying notes to consolidated financial statements.

ATHERONOVA INC. and SUBSIDIARY

(a Development Stage Company)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

For the years ended December 31, 2013 and 2012, and

For the period from December 13, 2006 (Inception) through December 31, 2013

1. ORGANIZATION

Z&Z Medical Holdings, Inc. ("Z&Z Nevada") was incorporated under the laws of the State of Nevada on December 13, 2006 (Inception). Z&Z Nevada had its headquarters located in Laguna Niguel, California. On November 30, 2009, a separate corporation named Z&Z Medical Holdings, Inc. ("Z&Z Delaware") was incorporated under the laws of the State of Delaware and on March 3, 2010, Z&Z Nevada was merged into Z&Z Delaware. On May 13, 2010, pursuant to an Agreement and Plan of Merger dated March 26, 2010, (i) our subsidiary, Z&Z Merger Corporation, merged with and into Z&Z Delaware (the "Merger") and the surviving subsidiary corporation changed its name to AtheroNova Operations, Inc. ("AtheroNova Operations"), (ii) we assumed all the outstanding options and warrants of Z&Z Delaware and (iii) we completed a capital raise transaction in which we sold $1,500,000 in 2.5% Senior Secured Convertible Notes. The former holders of AtheroNova Operations' common stock became holders of approximately 98% of our outstanding common stock. On May 21, 2010, holders of approximately 76.7% of the then outstanding shares of our Super-Voting Common Stock, approximately 90.7% of the then outstanding shares of our common stock, and approximately 77.1% of the combined voting power of the then outstanding shares of our Super-Voting Common Stock and our common stock approved an amendment of our certificate of incorporation that (i) decreased the authorized number of shares of our common stock to 100,000,000, (ii) designated 10,000,000 shares of blank check preferred stock, and (iii) adopted a 1-for-200 reverse stock split. The amendment to our certificate of incorporation became effective on June 23, 2010.

As a result of the Merger, AtheroNova is now engaged, through AtheroNova Operations, in development of pharmaceutical preparations and pharmaceutical intellectual property. We will continue to be a development stage company for the foreseeable future. We have entered into contracts with two research sites for our second round of pre-clinical trials.

Immediately prior to the Merger, we had 107,272,730 shares of our common stock issued and outstanding. In connection with the Merger, we issued 88,575,048 shares of our Super-Voting Common stock in exchange for the issued and outstanding shares of common stock of AtheroNova Operations, and assumed AtheroNova Operations' outstanding options and warrants which became exercisable to purchase an aggregate of up to 16,552,227 shares of

our Super-Voting Common Stock. Upon the effectiveness of the 1-for-200 reverse stock split all shares of our Super-Voting Common Stock were automatically converted on a 50-to-1 basis into our common stock, resulting in the issuance of 22,143,763 shares of our common stock to the former holders of AtheroNova Operation's common stock, and the outstanding shares of common stock held by our existing stockholders were combined into 607,647 shares of our common stock including 90,166 shares subsequently adjusted for rounding.

Since former holders of AtheroNova Operation's common stock owned, after the Merger, approximately 98% of our shares of common stock, and as a result of certain other factors, including that all members of our executive management are members of AtheroNova Operation's management, AtheroNova Operations is deemed to be the acquiring company for accounting purposes and the Merger was accounted for as a reverse merger and a recapitalization in accordance with generally accepted accounting principles in the United States ("GAAP"). These consolidated financial statements reflect the historical results of AtheroNova Operations prior to the merger and that of the combined company following the Merger, and do not include the historical financial results of AtheroNova Inc. prior to the completion of the merger.

2. BASIS OF PRESENTATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The summary of significant accounting policies presented below is designed to assist in understanding our consolidated financial statements. Such consolidated financial statements and accompanying notes are the representation of our management, who are responsible for their integrity and objectivity.

Development Stage

We are currently in the development stage, and our business plan is to develop commercial relationships with third parties for the development, marketing and sale of products based on our Intellectual Property ("IP") and to derive revenue through the licensing of our IP to such third parties.

Use of Estimates

In preparing these consolidated financial statements, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities as of the date of the consolidated financial statements and the reported amount of revenues and expenses during the reporting periods. Actual results could differ from those estimates. Significant estimates and assumptions included in our consolidated financial statements relate to the valuation of long-lived assets, accrued liabilities, and valuation assumptions related to the calculation of equity based compensation and in the calculation of the derivative liability.

Going Concern

The accompanying consolidated financial statements have been prepared under the assumption that we will continue as a going concern. Such assumption contemplates the realization of assets and satisfaction of liabilities in the normal course of business. As of December 31, 2013, we have an accumulated deficit of $22,029,794 and a stockholders' deficit of $2,503,004. We have incurred recurring losses from operations since inception, and utilized cash flow from operating activities of $3,261,824 during the year ended December 31, 2013. These factors, among others, raise substantial doubt about our ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might be necessary should we be unable to continue as a going concern.

During 2013, we secured funding through the exercise of warrants issued in previous financings with proceeds of $150,047, the sale of a second tranche of common stock to CardioNova upon delivery of clinical trial material with proceeds of $117,000 and closed a private placement with net proceeds of $520,001.

In February 2014, the Company placed $1,906,500 of Senior Secured 6% Notes to investors (See Note 11 Subsequent Events) and continues to seek additional long-term funding sources. Management expects that the current funds on hand will be sufficient to continue operations through April of 2014. There can be no assurances that the proceeds from these note sales will be sufficient to fund the Company operations for a sufficient period of time in order to secure significant additional funding. There can be no assurances that sufficient funding, if any at all, will be raised by

these or future discussions or the cost of such investments will be reasonable.

In light of the foregoing, management will also seek funding through grants and other such funds available from private and public sources established to further research in health care and advancement of science. Management continues to meet with representatives of private and public sources of funding and will continue to do so in the coming months.

Principles of Consolidation

The consolidated financial statements include the accounts of our Company and our wholly-owned subsidiary, AtheroNova Operations. Intercompany transactions and balances have been eliminated in consolidation.

Research and Development Costs

Costs incurred for research and development are expensed as incurred. Purchased materials that do not have an alternative future use are also expensed. For the years ended December 31, 2013 and 2012, and for the period from inception to December 31, 2013, research and development costs incurred were $4,399,294, $986,261 and $6,258,630, respectively.

Accounting for share based research and development costs

Under its Research and Development (R&D) agreements, the Company is obligated to issue shares of common stock if milestones are met by the R&D vendor. It is the Company's policy to recognize expense for these shares when it is estimated that there is a high probability of meeting the milestone. The Company accrues the share based expense based upon the estimated percentage of completion of the milestone. The shares are valued at the market price at the end of the period and revalued at each period until issued. At December 31, 2013, approximately 3 million shares of common stock are to be issued pursuant to the agreement with a fair value of $1,170,712. The liability was recorded as part of Research and development costs - payable in stock in the accompanying balance sheet below long term liabilities as it is only payable in shares of common stock.

Income Taxes

Current income tax expense is the amount of income taxes expected to be payable for the current year. A deferred income tax asset or liability is established for the expected future consequences of temporary differences in the financial reporting and tax bases of assets and liabilities. We consider future taxable income and ongoing, prudent and feasible tax planning strategies, in assessing the value of its deferred tax assets. If we determine that it is more likely than not that these assets will not be realized, we will reduce the value of these assets to their expected realizable value, thereby decreasing net income. Evaluating the value of these assets is necessarily based on our judgment. If we subsequently determine that the deferred tax assets, which had been written down, would be realized in the future, the value of the deferred tax assets would be increased, thereby increasing net income in the period when that determination was made.

Basic and Diluted Income/Loss per Share

Our computation of earnings per share ("EPS") includes basic and diluted EPS. Basic EPS is measured as the income (loss) available to common stockholders divided by the weighted average common shares outstanding for the period. Diluted income (loss) per share reflects the potential dilution, using the treasury stock method, that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that then shared in the income (loss) of the Company as if they had been converted at the beginning of the periods presented, or issuance date, if later. In computing diluted income (loss) per share, the treasury stock method assumes that outstanding options and warrants are exercised and the proceeds are used to purchase common stock at the average market price during the period. Options and warrants may have a dilutive effect under the treasury stock method only when the average market price of the common stock during the period exceeds the exercise price of the options and warrants. Potential common shares that have an anti-dilutive effect (i.e., those that increase income per share or decrease loss per share) are excluded from the calculation of diluted EPS.

Income (loss) per common share is computed by dividing net income (loss) by the weighted average number of shares of common stock outstanding during the respective periods. Basic and diluted (loss) per common share is the same for periods in which the Company reported an operating loss because all warrants and stock options outstanding are anti-dilutive.

There were no adjustments to net loss required for purposes of computing diluted earnings per share.

At December 31, 2013 and 2012, we excluded the outstanding securities summarized below, which entitle the holders thereof to acquire shares of common stock, from our calculation of earnings per share, as their effect would have been anti-dilutive.

	December 31,	
	2013	**2012**
Convertible Notes	5,509,769	6,078,734
Warrants	8,539,367	9,314,720
Stock Options	5,689,498	4,606,998
Total	**19,738,634**	**20,000,452**

Stock-Based Compensation

We periodically issue stock options and warrants to officers, directors and consultants for services rendered under our 2010 Stock Incentive Plan. We also assumed stock options in connection with the reverse merger consummated on May 13, 2010 which are not issued under any stockholder approved option plan. Options vest and expire according to terms established at the grant date. We account for share-based payments to officers and directors by measuring the cost of services received in exchange for equity awards based on the grant date fair value of the awards, with the cost recognized as compensation expense in our financial statements over the vesting period of the awards. We account for share-based payments to consultants and non-employees by determining the value of the stock compensation based upon the measurement date at either (a) the date at which a performance commitment is reached or (b) at the date at which the necessary performance to earn the equity instruments is complete. Certain share based awards may contain milestones that need to be achieved before the option begins vesting. Management estimates the probability of achievement of such milestones at each reporting date in calculating the estimate of the share-based cost.

The fair value of the Company's common stock option grants is estimated using the Black-Scholes-Merton option pricing model, which uses certain assumptions related to risk-free interest rates, expected volatility, expected life of the common stock options, and future dividends. Compensation expense is recorded based upon the value derived from the Black-Scholes-Merton option pricing model, and based on actual experience. The assumptions used in the Black-Scholes-Merton option pricing model could materially affect compensation expense recorded in future periods.

Derivative Financial Instruments

We evaluate all of our financial instruments to determine if such instruments are derivatives or contain features that qualify as embedded derivatives. For derivative financial instruments that are accounted for as liabilities, the derivative instrument is initially recorded at its fair value and is then re-valued at each reporting date, with changes in the fair value reported in the consolidated statements of operations. For stock-based derivative financial instruments, we use a weighted-average Black-Scholes-Merton option pricing model which approximates a Monte Carlo model to value the derivative instruments at inception and on subsequent valuation dates. The classification of derivative instruments, including whether such instruments should be recorded as liabilities or as equity, is evaluated at the end of each reporting period. Derivative instrument liabilities are classified in the balance sheet as current or non-current based on whether or not net-cash settlement of the derivative instrument could be required within 12 months of the balance sheet date.

Revenue Recognition

As of December 31, 2013, we have not generated any revenues from the development of our intellectual property ("IP") and are therefore still considered a development stage company.

Fair Value of Financial Instruments

Effective January 1, 2008, fair value measurements are determined by our adoption of authoritative guidance issued by the FASB, with the exception of the application of the statement to non-recurring, non-financial assets and liabilities as permitted. The adoption of the authoritative guidance did not have a material impact on our fair value measurements. Fair value is defined in the authoritative guidance as the price that would be received to sell an asset or paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. A fair value hierarchy was established, which prioritizes the inputs used in measuring fair value into three broad levels as follows:

Level 1—Quoted prices in active markets for identical assets or liabilities.

Level 2—Inputs, other than the quoted prices in active markets, are observable either directly or indirectly.

Level 3—Unobservable inputs based on our assumptions.

We are required to use observable market data if such data is available without undue cost and effort.

At December 31, 2013 and December 31, 2012, the fair values of cash and cash equivalents, and accounts payable approximate their carrying values.

Recently Issued Accounting Standards

In January 2013, the FASB issued Accounting Standard Update ("ASU") 2013-01, Balance Sheet (Topic 210): Clarifying the Scope of Disclosures about Offsetting Assets and Liabilities. This ASU clarifies which instruments and transactions are subject to the offsetting disclosure requirements established by ASU 2011-11. This guidance is effective for annual and interim reporting periods beginning January 1, 2013. The Company does not believe the adoption of this update will have a material effect on its financial position and results of operations.

On March 4, 2013, the FASB issued ASU 2013-05, "Foreign Currency Matters (Topic 830): Parent's Accounting for the Cumulative Translation Adjustment upon Derecognition of Certain Subsidiaries or Groups of Assets within a Foreign Entity or of an Investment in a Foreign Entity" ("ASU 2013-05"). ASU 2013-05 updates accounting guidance related to the application of consolidation guidance and foreign currency matters. This guidance resolves the diversity in practice about what guidance applies to the release of the cumulative translation adjustment into net income. This guidance is effective for interim and annual periods beginning after December 15, 2013. The Company does not believe the adoption of this update will have a material effect on its financial position and results of operations.

In July 2013, the FASB issued ASU No. 2013-11, Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Loss, or a Tax Credit Carryforward Exists. Topic 740, Income Taxes, does not include explicit guidance on the financial statement presented of an unrecognized tax benefit when a net operating loss carryforward, a similar tax loss, or a tax credit carryforward exists. There is diversity in practice in the presentation of unrecognized tax benefits in those instances and the amendments in this update are intended to eliminate that diversity in practice. The amendments are effective for fiscal years, and interim periods within those years, beginning after December 15, 2013. The amendments should be applied prospectively to all unrecognized tax benefits that exist at the effective date. Early adoption is permitted. The Company does not believe the adoption of this update will have a material effect on its financial position and results of operations.

Other accounting pronouncements did not or are not believed by management to have a material impact on the Company's present or future consolidated financial statements.

3. 2.5% SENIOR SECURED CONVERTIBLE NOTES PAYABLE

Convertible notes payable consist of the following as of December 31, 2013 and December 31, 2012:

	December 31, 2013	December 31, 2012
2010 Convertible Notes	$427,500	$427,500
2012 Convertible Notes	1,170,333	1,335,333
	$1,597,833	$1,762,833
Less Valuation Discount	(844,577)	(1,402,030)
Convertible Notes Payable, net	$753,256	$360,803

2010 Convertible Notes

On May 13, 2010, we entered into a Securities Purchase Agreement with W-Net Fund I, L.P. (“W-Net”), Europa International, Inc. (“Europa”) and MKM Opportunity Master Fund, Ltd. (“MKM” and together with W-Net and Europa, the “Purchasers”), pursuant to which the Purchasers, on May 13, 2010, purchased from us (i) 2.5% Senior Secured Convertible Notes (the “Original Notes”) for a cash purchase price of $1,500,000, and (ii) Common Stock Purchase Warrants pursuant to which the Purchasers may purchase up to 1,908,798 shares of our common stock at an exercise price equal to approximately $0.39 per share (the “Capital Raise Transaction”).

The Original Notes accrued 2.5% interest per annum with a maturity of 4 years after the closing of the Capital Raise Transaction. No cash interest payments were required, except that accrued and unconverted interest is due on the maturity date and on each conversion date with respect to the principal amount being converted, provided that such interest may be added to and included with the principal amount being converted. If there is an uncured event of default (as defined in the Original Notes),), of which one event of default would be the departure of Thomas Gardner without us obtaining a suitable full-time replacement within 90 days of such departure, the holder of each Original Note may declare the entire principal and accrued interest amount immediately due and payable. Default interest will accrue after an event of default at an annual rate of 12%. If there is an acceleration, a mandatory default amount equal to 120% of the unpaid Original Note principal plus accrued interest may be payable.

The warrants may be exercised on a cashless basis under which a portion of the shares subject to the exercise are not issued in payment of the purchase price, based on the then fair market value of the shares.

The Original Notes may not be prepaid, or forced by us to be converted in connection with an acquisition of our Company, except in a limited case more than a year after the Original Note issuance where the average of our stock trading price for 30 days on a national trading market other than the OTC Bulletin Board (“OTCBB”) is at least three times the conversion price, in which event, and subject to the satisfaction of certain other requirements, the Original Note holders may elect to receive at least double the unpaid principal amounts in cash and other requirements are satisfied. In such a limited case acquisition, there could also be a forced cashless exercise of the warrants subject to similar requirements and optional cash payments to the warrant holders of at least double the exercise prices of their warrants.

The Original Notes greatly restrict the ability of the Company or AtheroNova Operations to issue indebtedness or grant liens on our or its respective assets without the Original Note holders’ consent. They also limit and impose financial costs on our acquisition by any third party.

On May 13, 2010, we also entered into a Security Agreement and an Intellectual Property Security Agreement with the Purchasers and AtheroNova Operations, pursuant to which all of our obligations under the Original Notes are secured by first priority security interests in all of our assets and the assets of AtheroNova Operations, including intellectual property. Upon an event of default under the Original Notes or such agreements, the Original Note holders may be entitled to foreclose on any of such assets or exercise other rights available to a secured creditor under California and Delaware law. In addition, under a Subsidiary Guarantee, AtheroNova Operations will guarantee all of our obligations under the Notes.

On July 6, 2011, we entered into the First Amendment and Exchange Agreement with each of W-Net, Europa and MKM pursuant to which the Purchasers agreed to exchange the Original Notes for the Amended and Restated 2.5% Senior Secured Convertible Notes (the “Amended Notes”). The Amended Notes had the same terms as the Original Notes (as described above), except that each Amended Note was convertible at any time into common stock at a per

share conversion price of $0.29, subject to adjustment.

On June 15, 2012, the Company entered into the Second Amendment and Exchange Agreement with each W-Net, Europa and MKM pursuant to which the Purchasers agreed to exchange the Amended Notes for Second Amended and Restated 2.5% Senior Secured Convertible Notes (the "Second Amended Notes"). The Second Amended Notes have the same terms as the Amended Notes (as described above) except as follows: (i) each Second Amended Note has an automatic conversion provision and removal of the applicable beneficial ownership limitations effective the later of 61 days following the Company's notice to the Purchasers of its application to list or quote its securities on a national securities exchange or the date immediately prior to the effective date of the Company's listing or quotation of its securities on the applicable exchange; (ii) the price-based anti-dilution provisions contained in the Amended Notes have been removed; and (iii) under the Securities Purchase Agreement, as currently amended, if we met two specified operating benchmarks during the first twenty-nine months after the closing of the first Senior Note purchase, an additional $1,500,000 in note purchases, substantially in the form of the Second Amended Notes (without warrants), could be requested by us from the Purchasers. The determination of whether we had met the benchmarks was solely at the discretion of the Purchasers. If the benchmarks were determined to have been achieved, then we could have required the Purchasers to make the additional $1,500,000 of note purchases. If such benchmarks were not attained in the 29-month period or we did not exercise the option to request the additional notes, then the Purchasers, in their discretion, during the next 10 days may elect to purchase up to $1,500,000 of notes, substantially in the form of the Second Amended Notes (without warrants), having an initial conversion price which is 100% of the conversion price in the Second Amended Notes. On July 23, 2012 the Purchasers notified us of their intention of putting the additional $1,500,000 in notes in 3 tranches (see 2012 convertible notes below).

The Company considered the amendment of the note resulted in a modification for accounting purposes with no change to the net book value of notes as the value of the note's conversion feature and attached warrants were not changed. Furthermore, the derivative liability recorded when the notes and warrants were originally issued were deemed extinguished. At December 31, 2011, the balance of the outstanding notes was $955,351.

During the year ended December 31, 2012, principal in the amount of $527,851 was converted at a per share price of $0.29 into 1,820,572 shares of our common stock. In addition, the Company also issued 107,269 shares of our common stock with a market value of $69,552 to settle $31,191 of accrued interest relating to these notes. The issuance of these common shares resulted in an additional charge of $38,372 that has been reflected as part of interest expense in the accompanying 2012 statement of operations. The balance of these Senior Notes outstanding as of December 31, 2013 and 2012 amounted to $427,500 respectively. The notes are due on May 12, 2014 and have been reclassified as a current liability in the 2013 balance sheet. During the year ended December 31, 2013 and 2012, the Company recognized interest expense of $10,836 and $20,098, respectively based on the 2.5% interest rate of the note.

Upon issuance of the notes, the Company accounted the notes and the attached warrants as a derivative liability and determined that the fair value of the conversion feature to be $2,370,245, and that the fair value of the warrant to be $1,172,103, based on a weighted average Black-Scholes-Merton calculation. The Company recorded the full value of the derivative as a liability at issuance with an offset to valuation discount, which is being amortized over the life of the Notes. As the aggregate fair value of these liabilities of $3,542,348 exceeded the aggregate value of the Notes of $1,500,000 at issuance, the excess of the liability over the aggregate value of the Notes of $2,042,348 was considered as a cost of the private placement in 2010. The note discount is being amortized to interest expense over the term of the notes. At December 31, 2011, the unamortized note discount was $559,696.

During the year ended December 31, 2013 and 2012, the Company amortized note discount amounting to $106,878 and $415,444 respectively. At December 31, 2013 and 2012, the unamortized note discount was $37,375 and $144,252 respectively.

2012 Convertible Notes

On July 23, 2012 the Purchasers notified us of their intention of putting the additional $1,500,000 in Notes in 3 tranches. The first $500,000 was put to us and we issued Notes on September 4, 2012. These Notes mature on September 3, 2016. The second tranche of $498,333 was put to us and we issued Notes on October 1, 2012 that matures on September 30, 2016. The final tranche of $500,000 was put to us and we issued Notes on October 31, 2012 that matures on October 30, 2016, for an aggregate issuance of $1,498,333 during the year ended December 31, 2012. The Convertible Notes are convertible into common stock at a per share price of $0.29 per share.

During the year ended December 31, 2012, $163,000 of these notes was converted into 561,672 shares of our common stock. In addition, the Company also issued 4,206 shares of our common stock with a market value of $2,727 to settle $1,210 of accrued interest relating to these notes. The issuance of these common shares resulted in an additional charge of $1,505 that has been reflected as part of interest expense in the accompanying 2012 statement of operations. The balance of these Senior Notes outstanding as of December 31, 2012 was $1,335,333. During the year ended December 31, 2013, $165,000 of these notes was converted into 568,965 shares of our common stock. In addition, the Company also issued 47,942 shares of our common stock with a market value of $4,765 to settle $2,303 of accrued interest relating to these notes. The issuance of these common shares resulted in an additional charge of $2,462 that has been reflected as part of interest expense in the accompanying 2013 statement of operations. The balance of these Senior Notes outstanding as of December 31, 2013 amounted to $1,170,333.

During the year ended December 31, 2013 and 2012, the Company recognized interest expense of $30,914 and $9,605 respectively based on the 2.5% interest rate of the note.

As the market price on the date of the issuance of the notes ranged between $0.58 and $0.80 per share, the Company calculated a beneficial conversion feature up to the face value of the note in the aggregate of $1,498,333 representing the difference between the market price and the exercise price on the date of issuance. The beneficial conversion feature was recorded as a valuation discount and is being amortized over the term of the notes. During the year ended December 31, 2013 and 2012, the Company amortized note discount amounting to $450,575 and $240,555 respectively. As of December 31, 2013 and 2012, the unamortized note discount was $807,203 and $1,257,778 respectively.

Convertible notes purchased and held by Europa International, Inc. were $1,094,167 and $1,094,167 as of December 31, 2013 and 2012, respectively. Europa is an entity controlled by Knoll Capital Management of which Mr. Knoll, one of the Company's directors, is the managing director.

4. CardioNova Research Agreement

In October 2011, we entered into two definitive agreements with OOO CardioNova, a wholly-owned subsidiary of Maxwell Biotech Group, a Russian biotech fund, covering our AHRO-001 compound. The agreements cover a territory represented by the Russian Federation, the Ukraine and various countries in central Asia (the "Territory").

Under the Licensing Agreement, OOO CardioNova ("CardioNova") became an equity investor in our Company in exchange for the funding of Phase 1 and 2 human clinical trials conducted by a Clinical Research Organization ("CRO") located in Russia. Pursuant to the agreement, a Joint Steering Committee was established between both entities and determined final clinical protocols and research budget of $3.8 million. Pursuant to the agreement, common stock equal to 10%, 20%, 40%, and 30% of the research budget of $3.8 million will be issued to CardioNova upon achievement of four milestones of the research and testing. The shares to be issued will be determined based upon a 20 day average price prior to issuance up to $0.97/share.

For accounting purposes, the costs to be incurred in connection with this agreement are considered compensatory and are recognized as a Research and Development expense. Recognition of these costs as expense will generally occur when certain development projects are commenced and performance milestones become probable of achievement and are deemed earned.

During 2012, we reviewed the clinical development milestones as to their probability of achievement and, if probable, the estimated percentage of completion of the milestone. As of December 31, 2012, we determined that none of the milestones had a probable likelihood of achievement and therefore we recorded no estimated expense during 2012.

During 2013, several clinical development milestones were considered probable or were achieved. Upon acceptance of the development plan which occurred on April 25, 2013, 391,753 shares of common stock (10% of the research budget) were be issued to CardioNova at a 20-day weighted average prior to signature of the initial term sheet, or $0.97 per share. On April 29, 2013 the Russian Ministry of Healthcare approved the protocol submitted on January 22, 2013, upon which the Joint Steering Committee had based the Phase 1 protocol. Accordingly, 1,605,408 shares of our common stock were issued at the weighted 20-day average of $0.4734, representing 20% of the approved budget. As of December 31, 20134, the Company had issued 1,997,161 shares of its common stock representing 30% of the research budget.

Significant judgment is required in assessing when a performance milestone is probable of achievement and estimating the timing of when the performance of these milestones will be completed. These determinations are based on discussion between the Company and CardioNova personnel that address qualitative and quantitative factors, including, but not limited to, overall complexity associated with the assessment, stage of the clinical trial, progress made to date, results of testing, and consideration of the nature of the work remaining in the trial(s). We have completed the evaluation of the performance of the two remaining milestones as of December 31, 2013. The milestones specify that additional common stock issuances of 40% and 30% of the approved budget shall be issued upon the announcement of Phase 1 results and announcement of Phase 2 results, respectively. Each tranche will be priced at the lower of the weighted 20-day average immediately prior to each issuance event, or $0.97 per share, whichever is lower. Our review of the progress by CardioNova on the milestone relating to Phase 1 work was estimated at approximately 80% completed and we determined that the achievement of the milestone was probable. As a result, we accrued $1,170,712 based upon the December 31, 2013 fair value of the estimated shares of common stock issuable at the end of fiscal year 2013 and was recorded as part of Research and Development – Related Party in the 2013 Statement of Operations. A corresponding liability for the estimate of the fair value of the shares to be issued is shown as a contingent liability in our consolidated balance sheets as of December 31, 2013. The remaining value will be recognized as Research and Development expense in future periods based on actual progress toward this milestone and any variation of the actual total value of common stock issued or issuable upon future valuation measurement dates or upon completion of the milestone when compared to this periodic estimate will be expensed or credited to our statement of operations.

As of December 31, 2013, the final milestone relating to the Phase 2 clinical trial calling for additional issuance of our common stock is currently not yet believed to be probable of achievement and no estimated liability or expense has been recorded.

If CardioNova successfully develops and commercializes AHRO-001 in the Territory, we will be entitled to receive a quarterly royalty, based on net sales during the period using an escalating scale. The royalty agreement shall remain in force for the period in which intellectual property rights for AHRO-001 are in full force and effect in the Territory. As of December 31, 2013, no royalty has been recorded as AHRO-001 has not been successfully developed and commercialized.

Under the Securities Purchase Agreement, CardioNova purchased 275,258 shares of our common stock for a cash purchase price of $0.97 per share, which took place in two installments. The first installment, which took place on December 22, 2011, was for the issuance of 154,639 shares upon receipt of $150,000 as specified in the Licensing Agreement. The 2nd installment of 120,619 shares took place on June 14, 2013 upon delivery of final clinical product to be used in Phase 1 clinical trials for proceeds of $117,000.

5. Research and Development Projects

We have a research agreement signed in September 2012, amended in April 2013 and again in September 2013, with a major university in Southern California to conduct contract research in additional compounds covered under our pending patents. This agreement calls for payment of all research costs relating to the study of dosage and efficacy of bile salts on the atherosclerotic plaque in a non-human model. The total cost of the amended project was $236,323, paid in four installments over the estimated one year length of the study. During the year ended December 31, 2013 and 2012, we recorded $120,327 and $115,996, respectively, to Research and Development pursuant to the agreement. The final report on this research project was received in early 2014.

The Company has multiple testing agreements signed in 2012 and in August 2013 for testing of the oral toxicity of AHRO-001 in non-human models. Each agreement can be terminated anytime and there are no commitments or guarantees other than to reimburse costs incurred prior to termination.

A study initiated in September 2012, with a cost of approximately $507,000, has been completed and final research reports were received during 2013. Project costs of $389,785 and $116,545 have been recorded as part of Research and Development costs on the accompanying statement of operations for the year ended December 31, 2013 and 2012 respectively.

Studies authorized in August 2013, with a cost of approximately $224,600, have both completed the active phase of testing and are in the initial data analysis stage of the projects. The process is ongoing and to date, $175,950 has been expensed, all of which has been recorded as part of Research and development costs on the accompanying statement of operations for the year ended December 31, 2013. The remaining costs of approximately $49,000 will be recorded in future period once the service has been rendered.

We have a development agreement with a Pennsylvania-based Clinical Research Organization (“CRO”) specializing in formulation and manufacturing of clinical research grade pharmaceutical products. The agreement calls for the CRO to use our API to formulate and manufacture Phase1 and 2 clinical trial pharmaceutical products. The total cost of the project was $385,000, paid in progress installments over the length of the development and compounding process. The process was completed upon shipment of clinical supplies to Russia and during the year ended December 31, 2013. The Company recognized $166,422 and $218,847 pursuant to the agreement which was recorded as part of Research and Development costs on the accompanying consolidated statement of operations for the years ended December 31, 2013 and 2012, respectively.

During the year ended December 31, 2013 and 2012, we recorded additional research and development costs of $1,451,041 and $534,873 respectively representing fees paid to research and development consultants, purchase of testing materials, development of tablet formulation services and other testing costs and fees incurred.

6. COMMITTMENTS

Facility Lease Agreement

In June 2012, we entered into a 69 month lease agreement, on existing and expansion office space, with a final amended commencement date of October 1, 2012 on a 66 month term. The total occupancy encompasses 1,930 square feet of general use office space. Monthly rent started at $3,570 per month and annual escalators will increase the rent to $4,053 per month in the final year of the lease. This office space will continue to be our administrative and corporate headquarters. During the year ended December 31, 2013, the Company recognized $47,214 in lease expense pursuant to this agreement.

The following table presents the minimum future rent obligations under the lease agreement:

	2014	**2015**	**2016**	**2017**	**2018**	**Thereafter**
Minimum future payments	$44,873	$46,030	$47,189	$48,346	$12,159	--

7. STOCKHOLDERS’ EQUITY (DEFICIT)

In March 2013, a controlling stockholder sold a total of 1,624,999 shares of common stock to certain directors of the Company. As the shares of common stock were sold at a price lower than the market price, the Company considered

this transaction as contribution of capital and recorded compensation expense amounting to $422,500 to record the difference between the sales price and market price at the date of sale. In addition, the controlling stockholder also transferred, at no cost, 95,000 shares of common stock to certain officers and directors of the Company. The Company considered this transaction as contribution of capital and recorded compensation expense amount to $58,900 to account for the fair value of the shares of common stock at the date of transfer.

Common Stock

2013

During the year ended December 31, 2013, we sold 800,002 units for $0.65 per unit, each unit consisting of one share of common stock and a warrant to purchase 0.30 shares of common stock resulting in proceeds to us of $520,001. There were no commissions paid on this transaction. The sale of these units resulted in the issuance of 800,002 shares of our common stock and the issuance of warrants to acquire 240,001 shares of our common stock. The warrants are exercisable up to ten years from the date of issuance at a price of $0.75 per share.

During the year ended December 31, 2013, holders of warrants to purchase 672,855 shares of our common stock at $0.223 exercised the warrants, resulting in cash proceeds to us of $150,047.

During the year ended December 31, 2013, a director of the Company and a holder of a warrant to purchase 336,427 shares of our common stock at $0.223 exercised the warrant on a “cashless exercise” basis, resulting in issuance of 186,380 shares of our common stock and cancellation of 150,047 shares purchasable under the warrant.

During the year ended December 31, 2013, we sold 120,619 shares of our common stock to CardioNova under the Securities Purchase Agreement resulting in proceeds to us of $117,000 or $0.97 per share. There were no commissions paid on this transaction. (see Note 4).

During the year ended December 31, 2013, we issued an aggregate of 1,997,161 shares of our common stock valued at $0.73 per share, or $1,198,297 to CardioNova in consideration for the achievement of milestones under the 2011 Licensing Agreement (see Note 4). The shares issued were valued at the trading price on the approval date of the Company's Board of Directors and recorded as part of research and development expenses.

During the year ended December 31, 2013, we issued an aggregate of 576,907 shares of our common stock pursuant to the conversion of the Company's 2.5% Senior Secured Convertible Notes Payable amounting to $165,000 and accrued interest of $2,303 (see Note 3). Additionally, the Company also recognized an additional charge of $2,462 as part of interest expense in the accompanying statement of operations to account for the current market price of the shares issued to settle the unpaid interest.

During the year ended December 31, 2013, we issued 6,456 shares of our common stock valued at $4,518 to settle accounts payable with a balance of $4,200 to a director of the Company. The shares issued were valued at the trading price at the date of issuance and the difference over the accounts payable balance of $318 was recognized as part of General and Administrative Expenses on the accompanying consolidated statement of operations.

2012

During the year ended December 31, 2012, we sold 4,480,000 units for $0.50 per unit, each unit consisting of one share of common stock and a warrant to purchase 0.50 shares of common stock resulting in proceeds to us of $2,061,787 after payment of commissions $161,800 to a placement agent and $16,413 in various legal and miscellaneous fees directly associated with these sales. The sale of these units resulted in the issuance of 4,480,000 shares of our common stock and the issuance of warrants to acquire 2,240,000 shares of our common stock. The warrants are exercisable up to four years from the date of issuance at a price of $0.625 per share. Warrants to acquire up to 99,600 shares of common stock at the same terms were also issued to our placement agent. Due to the principals of the placement agent also being holders of the 12% Convertible Notes Payable, commissions of $54,800 were also paid to them on the short term notes converted to common stock (see Note 3).

During the year ended December 31, 2012, we issued an aggregate of 459,600 shares of our common stock valued at $256,100 at prices ranging between $0.62 and $1.01 per share in exchange for services provided. The shares issued were valued at the trading price at the date of the agreements.

During the year ended December 31, 2012, we issued an aggregate of 1,370,000 shares of our common stock pursuant to the conversion of the Company's Short Term 12% Convertible Notes Payable amounting to $685,000 (see Note 10).

During the year ended December 31, 2012, we issued an aggregate of 2,493,719 shares of our common stock pursuant to the conversion of the Company's 2.5% Senior Secured Convertible Notes Payable amounting to $690,851 and accrued interest of $32,401 (see Note 3). Additionally, the Company also recognized an additional charge of $39,878 as part of interest expense in the accompanying statement of operations to account for the current market price of the shares issued to settle the unpaid interest.

During the year ended December 31, 2012, we issued 30,061 shares of our common stock valued at $23,748 to settle accounts payable with a balance of $19,269. The shares issued were valued at the trading price at the date of issuance and the difference over the accounts payable balance of $4,479 was recognized as part of General and Administrative Expenses on the accompanying consolidated statement of operations.

In March 2012 a controlling stockholder transferred a total of 115,000 shares of common stock to directors, officers, employees and service providers of the Company. Compensation expense totaling $123,050 was recognized on the date of approval of the transfers based upon the market value of the shares on the approval date.

Stock Options

We have a stockholder-approved stock incentive plan for employees under which we have granted stock options. In May 2010, we established the 2010 Stock Incentive Plan (the "2010 Plan"), which provides for the granting of awards to officers, directors, employees and consultants to purchase or acquire up to 4,362,964 shares of our common stock. The plan was amended in 2013 to increase the number of shares authorized under the plan up to 7,362,964 shares of our common stock. The awards have a maximum term of 10 years and vest over a period determined by the administrator of the 2010 Plan and are issued at an exercise price determined by the administrator. Options issued under the 2010 Plan will have an exercise price equal to or greater than the fair market value of a share of our common stock at the date of grant. The 2010 Plan expires on May 20, 2020 as to any further granting of options. At the year ended December 31, 2013 there were options to purchase up to 4,340,000 shares of the Company's common stock granted and outstanding under the 2010 Plan.

We have granted options to individual employees, directors, and consultants pursuant to our 2010 Plan that was approved by stockholders. In addition, we assumed options granted by AtheroNova Operations to its employees prior to the Merger. The assumption of these options was not approved by our stockholders.

The following table provides information, as of December 31, 2013, with respect to all stock option compensation arrangements.

	Number of securities to be issued upon exercise of outstanding options, and rights	**Weighted-average exercise price of outstanding options, and rights**	**Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)**

Plan Category	(a)	(b)	(c)
Equity compensation plans approved by stockholders	4,340,000	$ 0.97	3,022,964
Equity compensation plans approved by the Board of Directors	1,349,498	0.39	--
Total	5,689,498	$ 0.83	3,022,964

2013

During the year ended December 31, 2013, options to purchase an aggregate of 502,500 shares of the Company's common stock were granted under the 2010 Plan to an employee and members of the Company's Board of Directors valued at $258,497 using the Black-Scholes-Merton option pricing model. The options have an exercise price of $0.43 up to $0.69 per share, vest over a three to four year period and expire seven years from the date of grant. During the period ended December 31, 2013, the Company recognized compensation costs of $52,652 based on the vesting of these options.

During the year ended December 31, 2013, options to purchase 1,580,000 shares of the Company's common stock were granted to consultants valued at $881,688 using the Black-Scholes –Merton calculation. The options have an exercise price of $0.43 up to $0.69 per share, vest over a four year period and expire seven years from the grant date. During the year ended December 31, 2013, the Company recognized compensation expense of $98,094 based on the vesting of these options.

In May 2011, the Company granted a consultant a total of 1,500,000 options to purchase share of the Company's common stock at $1.01/share. These options would only become fully vested upon achievement of certain milestones and will expire seven years from the date of grant. At the beginning of 2013, a total of 1,350,000 options remained unvested. In March and May 2013, certain milestones were achieved resulting in a total of 350,000 options becoming fully vested and the Ccompany recognized compensation costs of $117,257 based on the fair value of these options using the Black-Scholes-Merton calculation. In June 2013, the Company and the consultant agreed to cancel the remaining unvested options to purchase 1,000,000 shares of common stock at $1.01 per share.

During the year ended December 31, 2013, we recognized an additional $596,676 of compensation costs related to the vesting of approximately 4.6 million options granted to other employees and directors in prior years. As of December 31, 2013, the total compensation cost related to nonvested option awards not yet recognized was $1,183,387. The weighted average period over which it is expected to be recognized is approximately 0.88 years.

2012

During the year ended December 31, 2012, options to purchase an aggregate of 100,000 shares of the Company's common stock were granted to directors under the 2010 Plan. The options vest 25% upon issuance, and then vest 25% on each anniversary date thereafter until fully vested. The options have an average exercise price of $1.00 per share and expire on the 7th anniversary of the date of grant. The options were valued using the Black-Scholes-Merton option pricing model at $88,500 of which $38,124 was expensed during the year ended December 31, 2012 based upon the options' vesting schedules.

In June 2012, the exercise price of options granted to a consultant in fiscal 2011 to purchase an aggregate of 1,500,000 shares of the Company's common stock at an average price per share of $1.25 were repriced to $1.01 per share to reflect the contractual intent to grant all shares under the contract at the time of initiation of the consulting contract. The closing price of the Company's common stock on the date of the adjustment was $0.79. During the year ended December 31, 2012, the Company recognized a total of $219,015 in stock compensation expense based upon the vesting of these options using the Black-Scholes-Merton option pricing model. Compensation expense to be recognize in future periods amounted to approximately $427,000. The weighted average period over which it is expected to be recognized is approximately 3.6 years.

During the year ended December 31, 2012, we recognized an additional $546,631 of compensation costs related to the vesting of approximately 4.5 million options granted to other employees and directors in prior years. As of December 31, 2012, the total compensation cost related to nonvested option awards not yet recognized was $1,304,110. The weighted average period over which it is expected to be recognized is approximately 3.5 years.

A summary of the status of our stock options as of December 31, 2013 and 2012 and changes during the periods then ended is presented below:

	Shares	**Weighted average exercise**	**Weighted Average Remaining**	**Aggregate Intrinsic Value**

		price	Contractual Term (years)	
Outstanding at December 31, 2011	4,519,498	$ 1.129	6.163	$1,140,059
Granted	100,000	$ 1.000	6.500	--
Exercised	--	--	--	--
Cancelled	(12,500)	$ 1.110	--	--
Outstanding at December 31, 2012	4,606,998	$ 0.987	5.189	$119,241
Granted	2,082,500	$ 0.574	6.376	--
Exercised	--	--	--	--
Cancelled	(1,000,000)	$ 1.010	--	--
Outstanding at December 31, 2013	5,689,498	$ 0.832	4.849	$86,271
Exercisable at December 31, 2013	3,054,715	$ 0.952	3.942	$84,475

To compute compensation expense in 2013, we estimated the fair value of each option award on the date of measurement using the Black-Scholes-Merton option pricing model. In prior periods, the Company based the expected volatility assumption on a volatility index of publicly traded peer companies. During the current year, the Company determined that its stock price has matured and there is a consistent level of trading activity, as such, the Company used the volatility percentage of its common stock. The expected term of options granted represents the period of time that options are expected to be outstanding. We estimated the expected term of stock options by using the simplified method. The expected forfeiture rates are based on the historical forfeiture experiences. To determine the risk-free interest rate, we utilized the U.S. Treasury yield curve in effect at the time of measurement with a term consistent with the expected term of our awards. We have not declared a dividend on our common stock since its inception and have no intentions of declaring a dividend in the foreseeable future and therefore used a dividend yield of zero.

The following table provides detail with regard to options outstanding, vested and exercisable at December 31, 2013:

	Outstanding			**Vested and Exercisable**		
Price per share	**Shares**	**Weighted-Average Price per Share**	**Weighted-Average Remaining Contractual Life (years)**	**Shares**	**Weighted-Average Price per Share**	**Weighted-Average Remaining Contractual Life (years)**
$0.223 – $0.69	2,631,998	$ 0.501	5.69	612,430	$ 0.257	3.48
$0.70 – $1.25	2,797,500	$ 1.062	4.08	2,289,793	$ 1.064	4.05
$1.30 – $2.38	260,000	$ 1.723	4.57	179,992	$ 1.950	4.37
	5,689,498			3,082,215		

The following table shows the weighted average assumptions we used to develop the fair value estimates for the determination of the compensation charges in 2013:

	Year ended December 31,	
	2013	2012
Expected volatility	113-226 %	111-134%
Dividend yield	--	--
Expected term (in years)	5.50-6.25	1.75-6.25
Risk-free interest rate	1.38-2.09%	1.19-1.41%

Warrants

2013

During the year ended December 31, 2013 as part of our sale of units of our common stock, we issued 240,001 warrants to purchase shares of our common stock. The warrants have a ten year term from the date of purchase of the unit and are exercisable at $0.755 per share.

During the year ended December 31, 2013 we issued warrants to a service provider to purchase 50,000 shares of our common stock. The warrants vest immediately, had a term of three years and are exercisable at a purchase price of $0.50. the warrants were valued using the Black-Scholes-Merton option pricing model at $13,500 with the following assumptions risk free interest rate of 0.40%, dividend yield of 0%, volatility factors of the expected market price of common stock of 114%, and an expected life of 2.5 years.

During the year ended December 31, 2013, a holder of warrants to purchase 560,713 shares of our common stock at $0.223 per share exercised the warrant, resulting in cash proceeds to the Company of $125,039 and issuance of the shares upon receipt of the purchase price.

During the year ended December 31, 2013 a director of the Company and holder of a warrant to purchase 336,427 shares of our common stock at $0.223 exercised the warrant on a “cashless exercise” basis, resulting in issuance of 186,363 shares of our common stock and cancellation of 150,064 shares purchasable under the warrant. The Company did not receive any cash proceeds as a result of this transaction.

During the year ended December 31, 2013 a holder of warrants to purchase 112,142 shares of our common stock at $0.223 per share exercised the warrant, resulting in cash proceeds to the Company of $25,007 and issuance of the shares upon receipt of the purchase price.

2012

During the year ended December 31, 2012 as part of its sale of units of its common stock, we issued 2,240,000 warrants to purchase shares of our common stock. The warrants have a 4 year term from the date of purchase of the unit and are exercisable at $0.625 per share.

On May 15, 2012, we issued 140,000 warrants to the purchasers of the short term 12% notes issued as of that date. The warrants are exercisable at $0.90 per share with the provision to adjust the purchase price based on the issuance price of the private placement in process at the time of the issuance of the notes and a term of 66 months from the date of the original issuance. The fair value of the warrants amounted to $58,387 using a Black-Scholes-Merton option pricing model and was recognized as a note discount upon its issuance and amortized in full to interest expense based upon the original term of the notes. In October 2012 concurrent with the closing of the private placement, the warrants were repriced to $0.575 to reflect the transaction price. As a result, we recognized an additional cost of $34,220 to account for the fair value of these revalued warrants as part of Changes to short-term notes and warrants in the accompanying consolidated statements of operations. See Note 3.

In October 2012, we issued a total of 685,000 warrants to purchase shares of our common stock in conjunction with the conversion of our short term 12% convertible notes payable. The warrants have a 4 year term from the date of purchase of the unit and are exercisable at $0.625 per share. Total fair value of the warrants issued were calculated to be $420,863 using the Black-Scholes-Merton option pricing model and was recorded as part of Changes to 12% Notes and Warrants in the accompanying consolidated statements of operations.

The following table provides detail with regard to warrants outstanding, vested and exercisable at December 31, 2013:

	Outstanding			Vested and Exercisable		
Price per share	Shares	Weighted-Average Price per Share	Weighted-Average Remaining Contractual Life	Shares	Weighted-Average Price per Share	Weighted-Average Remaining Contractual Life
$0.223	2,130,706	$ 0.223	1.20	2,130,706	$ 0.223	1.20
$0.393	1,908,798	$ 0.393	0.42	1,908,798	$ 0.393	0.42
$0.50	71,000	$ 0.500	1.48	71,000	$ 0.500	1.48
$0.575	140,000	$ 0.575	3.83	140,000	$ 0.575	3.83
$0.60	923,862	$ 0.600	0.60	923,862	$ 0.600	0.60
$0.625	2,925,000	$ 0.625	2.75	2,925,000	$ 0.625	2.75
$0.75	240,001	$ 0.750	9.67	240,001	$ 0.750	9.67
$1.64	200,000	$ 1.640	2.00	200,000	$ 1.640	2.00
	8,539,367			8,539,367		

As of December 31, 2013 there are warrants to purchase 8,539,367 shares of our common stock outstanding with expiration dates ranging from February 2014 through August 2023 and exercise prices ranging from $0.22 to $1.64. A summary of the status of our warrants as of December 31, 2013 and 2012 and changes during the periods then ended is presented below:

Balance at December 31, 2011 (at $0.223-$1.64)	6,249,720
Granted (at $0.575 - $0.625)	3,065,000
Exercised	--
Balance at December 31, 2012 (at $0.223 - $1.64)	9,314,720
Granted (at $0.50 - $0.75)	290,001
Exercised	(859,235)
Cancelled	(206,119)
Ending balance at December 31, 2013 (at $0.223 - $1.64)	8,539,367

The intrinsic value of the warrants at December 31, 2013 was $334,521.

8. **INCOME TAXES**

Income Taxes

The provision for income taxes for the periods ended December 31, 2013, and 2012, was as follows (using a 42.8 percent effective Federal and state income tax rate):

	2013	**2012**
Current Tax Provision:		
Federal	$--	$--
State	1,365	1,365
Total current tax provision	$1,365	$1,365
Deferred Tax Provision:		
Federal and state		
Loss carryforwards	$(2,360,000)	$(933,000)
Valuation allowance	2,360,000	933,000
Total deferred tax provision	$--	$--

We had deferred income tax assets as of December 31, 2013, and 2012, as follows:

	2013	**2012**
Loss carryforwards	$(4,261,000)	$(1,901,000)
Less – valuation allowance	4,261,000	1,901,000
Total net deferred tax assets	$--	$--

As of December 31, 2013, we had net operating loss carryforwards for income tax reporting purposes of approximately $8,861,000 that may be offset against future taxable income. Current tax laws limit the amount of loss available to be offset against future taxable income when a substantial change in ownership occurs or a change in the nature of the business. Therefore, the amount available to offset future taxable income may be limited.

No tax benefit has been reported in our financial statements for the realization of loss carryforwards, as we believe there is high probability that the carryforwards will not be utilized in the foreseeable future. Accordingly, the potential tax benefits of the loss carryforwards are offset by a valuation allowance of the same amount.

We are primarily subject to U.S. federal and state income tax. As a result of the implementation of certain provisions of ASC 740, Income Taxes, (formerly FIN 48, Accounting for Uncertainty in Income Taxes – An Interpretation of FASB Statement No. 109), we performed an analysis of our previous tax filings and determined that there were no positions taken that we considered uncertain. Therefore, there were no unrecognized tax benefits as of December 31, 2013.

Future changes in the unrecognized tax benefit are not expected to have an impact on the effective tax rate due to the existence of the valuation allowance. We estimate that the unrecognized tax benefit will not change within the next twelve months. We will continue to classify income tax penalties and interest, if any, as part of interest and other expenses in our statements of operations.

9. DERIVATIVE LIABILITY

In April 2008, the FASB issued a pronouncement which provides guidance on determining what types of instruments or embedded features in an instrument held by a reporting entity can be considered indexed to its own stock for the purpose of evaluating the first criteria of the scope exception in the pronouncement on accounting for derivatives. This pronouncement was effective for financial statements issued for fiscal years beginning after December 15, 2008. The adoption of these requirements can affect the accounting for warrants and many convertible instruments with provisions that protect holders from a decline in the stock price (or “down-round” provisions). For example, warrants with such provisions are no longer to be recorded in equity. Down-round provisions reduce the exercise price of a warrant or convertible instrument if a company either issues equity shares for a price that is lower than the exercise price of those instruments or issues new warrants or convertible instruments that have a lower exercise price.

We evaluated whether convertible debt and warrants to acquire our common stock contain such provisions that protect holders from declines in the stock price or otherwise could result in modification of the exercise price under the respective convertible debt and warrant agreements. We determined that the Senior Notes and warrants issued to W-Net, Europa and MKM in May 2010 as described in Note 3 contained such provisions and were recorded as derivative liabilities upon their issuance. FASB's guidance requires the fair value of these liabilities be re-measured every reporting period with the change in value reported in the statements of operations.

On June 15, 2012, pursuant to the amendments of the Senior Notes and associated warrants as discussed in Note 3, we determined the conversion features of the notes and the exercise prices of the warrants were no longer required to be accounted for as a derivative liability due to the elimination of the price-based anti-dilution provisions contained in the Senior Amended Notes and warrants. As a result, the Company recognized the fair value of the derivative liability at the date of extinguishment of $3,472,549 as part of its contributed capital.

The derivative liabilities and restatement were valued using a probability weighted-average Black-Scholes-Merton option pricing model, which approximates the Monte Carlo and other binominal valuation techniques with the following assumptions:

	June 15, 2012 (Note & Warrant Amendment and Restatement Date)	
Conversion feature :		
Risk-free interest rate	0.29	%
Expected volatility	111	%
Expected life (in years)	1.87	
Expected dividend yield	0.00	%
Warrants :		
Risk-free interest rate	0.29	%
Expected volatility	111	%
Expected weighted average life (in years)	1.87	
Expected dividend yield	0.00	%
Fair Value :		
Conversion feature	$ 2,295,881	
Warrants	1,176,668	
	$ 3,472,549	

The risk-free interest rate was based on rates established by the Federal Reserve Bank, expected volatility was based on a volatility index of peer companies as we did not have sufficient market information in 2012 to estimate the volatility of our own stock, and the expected life of the instruments was determined by the expiration date of the instruments. The expected dividend yield was based on the fact that we have not paid dividends to common stockholders in the past and do not expect to pay dividends to common stockholders in the foreseeable future.

During the year ended December 31, 2012, the Company recognized a gain of $97,975, to account for the corresponding extinguishment of derivative liability upon partial conversion of the principal balance of a convertible note into shares of common stock and recognized a gain of $2,640,497 to account for the change in the fair value of derivative liabilities. As of December 31, 2012, all such derivative liabilities had been extinguished.

10. 12 % CONVERTIBLE NOTES PAYABLE

On May 15, 2012, we entered into a Securities Purchase Agreement with ACT Capital Partners and Amir L. Ecker pursuant to which the purchasers, purchased from us (i) 12% Convertible Notes ("Bridge Notes") for a cash purchase price of $700,000, and (ii) Common Stock Purchase Warrants pursuant to which the purchasers of Bridge Notes may purchase up to 140,000 shares of our common stock at an exercise price of $0.90 per share, subject to adjustment. The Bridge Notes are secured by the Company's assets, accrued 12% interest per annum with a maturity date of September 30, 2012. On September 27, 2012 the maturity date of these Bridge Notes was extended to October 15, 2012. All other terms and conditions remained unchanged. No cash interest payments were required, except that accrued and unconverted interest would be due on the maturity date and on each conversion date with respect to the principal amount being converted, provided that such interest could be added to and included with the principal amount being converted. Upon the occurrence of an event of default (as defined in the Bridge Notes), the holder of each Bridge Note could have declared the entire principal and accrued interest amount immediately due and payable. Total proceeds received amounted to $645,200, net of commission fee of $54,800.

Upon issuance of the Bridge Notes, we calculated the fair value of the warrants to be $58,387 that was determined using a Black-Scholes-Merton option pricing model with the following assumptions: stock price of $0.55; exercise price of $0.90; term of 5.5 years; interest rate of 0.70%; dividend rate of 0%; and volatility of 113%. The fair value of the warrants and the commission fee, in the aggregate of $113,186, was recorded as a discount to the Bridge Notes and was amortized in full to interest expense over the original term of the Bridge Notes.

Each Bridge Note was convertible at any time into common stock at a specified conversion price, which was approximately $0.90 per share, subject to adjustment. The Company did not recognize a beneficial conversion feature upon issuance of the Bridge Notes as the conversion price was in excess of the trading price of its common stock at the date of the Bridge Note agreement.

The Bridge Notes could not be prepaid, or forced by us to be converted in connection with an acquisition of our company. In connection with an acquisition of our company the Bridge Notes could have been be assigned or sold by the holders or converted into equivalent equity in any acquiring company. The Bridge Notes were secured by a Subsidiary Guarantee and were subordinated to our senior notes to the amounts then outstanding under our senior notes.

In October 2012, the Company paid $15,000 of the note principal and converted the remaining principal balance of $685,000 to 1,370,000 shares of the Company's common stock at a conversion price of $0.50 per share. As such, there was no balance due on this note as of December 31, 2013. This conversion price was modified to $0.50 per share corresponded with the per unit price for the purchasers in a private placement closed by us in that month. The modified conversion price was considered an inducement to convert the notes. Accordingly, the Company recognized a beneficial conversion feature cost of $411,000 to account for the intrinsic value in the conversion price of the notes

and the market price of the Company's stock at the date of conversion. Furthermore, the warrants issued initially under the Securities Purchase Agreement as disclosed above were modified to $0.575 per share using the closing price of warrants issued in a concurrent private placement. As a result, the Company recognized an additional cost of $34,220 to account for the change in fair value of these revalued warrants.

Additionally, upon conversion of these notes, the Company granted these note holders additional warrants to purchase 685,000 shares of the Company's common stock at $0.63 per share. The warrants are fully exercisable and will expire in four years. The Company considered these warrants as an inducement to the note holders to convert their notes into common stock. Total fair value of the warrants issued were calculated to be $420,863 using the Black-Scholes-Merton option pricing model with the following assumptions: stock price of $0.80; exercise price of $0.63; term of 4 years; interest rate of 1.4%; dividend rate of 0%; and volatility of 110%.

The aggregate of cost of $866,083 due to changes in the conversion price of the notes and issuance of additional warrants that have been reflected in the accompanying statement of operations for the year ended December 31, 2012. During the year ended December 31, 2012, the Company paid these note holders $32,666 for interest due.

11. SUBSEQUENT EVENTS

On January 15, 2014 we granted 400,001 warrants to certain investors in an equity placement during August 2013 as compensation for the variance in their purchase price of $0.65 per unit and the note placement consummated on February 12, 2014. The exercise price of the warrants is $0.23 per share and the warrants have a ten year life from the date of issuance. The Black-Scholes-Merton calculations of the value of the warrants was an aggregate of $184,000 which will be considered as a cost of the private placement.

During January and February 2014, we entered into Securities Purchase Agreements with accredited investors under which the participants purchased, on February 12, 2014, $1,906,500 of our 6% Senior Secured Convertible Notes with 4,144,5658 associated warrants. In connection with this note placement, the Company paid cash commissions of $68,720 and issued 65,351 shares of common stock, with a fair value of $23,395, to an accredited broker that assisted in this note placement. The 6% Notes are secured by a first priority security interest of all assets of the Company and its subsidiaries, including intellectual property. The 6% Notes have a 3 year term and are convertible into common stock at any time at the lesser of i) $0.23 per share and ii) seventy percent of the average of the three lowest daily VWAPs occurring during the 20 consecutive trading days immediately preceding the applicable conversion date. Each purchaser also received a warrant with a 10 year life entitling the holder to purchase common stock representing 50% of the number of conversion shares of the purchased note at $0.23 per share. Additionally, as an incentive, the life of existing warrants held by participants in the Note purchase were extended to ten years from the date of each respective warrant's original issuance.

The 6% Notes and associated warrants included an anti-dilution provision that allows for the automatic reset of the conversion or exercise price upon any future sale of common stock instruments at or below the current conversion or exercise price, as applicable. We considered the current Financial Accounting Standards Board guidance of "Determining Whether an Instrument Indexed to an Entity's Own Stock" which indicates that any adjustment to the fixed amount (either conversion price or number of shares) of the instrument regardless of the probability or whether or not within the issuers' control, means the instrument is not indexed to the issuers own stock. Accordingly, we determined that the conversion price of the 6% Notes and the strike price of the associated warrants contain conversion or exercise prices, as applicable, that may fluctuate based on the occurrence of future offerings or events, and as such are not fixed amounts. As a result, we determined that the conversion features of the 6% Notes and the associated warrants are not considered indexed to our own stock and characterized the fair value of the 6% Notes and the associated warrants as derivative liabilities upon issuance.

Upon issuances, we determined that the fair values of the conversion feature of the 6% Notes and the associated warrants to be approximately $2,951,776 and $ 1,491,780, respectively based upon a weighted average Black-Sholes-Merton calculation. We will record the full value of the derivative as a liability at issuance with an offset to valuation discount, which will be amortized over the life of the 6% Notes. As the aggregate fair value of these liabilities of $4,443,556 exceeded the aggregate 6% Note value of $1,906,500 the excess of the liability over the 6% Note value of $2,537,056 will be considered as a cost of the private placement. Additionally, the Black-Scholes-Merton calculations of the value of each of the warrants immediately before and after the life extension

resulted in a valuation increase of an aggregate of $564,849, which will be recorded and an additional cost of the private placement. The derivative liability will be revalued at each subsequent reporting date.

Shares

Common Stock

PROSPECTUS

Aegis Capital Corp

Part ii
INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. Other Expenses of Issuance and Distribution.

The following is a statement of estimates expenses in connection with the issuance and distribution of the common stock being registered, other than the underwriting discount. All expenses incurred with respect to the registration of the common stock will be borne by us. All amounts are estimates except the SEC registration fee.

	Amount
SEC Registration Fee	$ 1,932
FINRA Filing Fee	2,750
NYSE MKT Listing Fee	**
Printing Expenses	**
Legal Fees and Expenses	**
Accounting Fees and Expenses	**
Blue Sky Fees and Expenses	**
Transfer Agent and Registrar Fees and Expenses	**
Miscellaneous expenses	**
Total	$ **

** To be filed by amendment

ITEM 14. Indemnification of Directors and Officers.

The Delaware General Corporation Law and certain provisions of our amended and restated certificate of incorporation and bylaws under certain circumstances provide for indemnification of our officers, directors and controlling persons against liabilities which they may incur in such capacities.

In general, any officer, director, employee or agent may be indemnified against expenses, fines, settlements or judgments arising in connection with a legal proceeding to which such person is a party, if that person’s actions were in good faith, were believed to be in our best interest, and were not unlawful. Unless such person is successful upon the merits in such an action, indemnification may be awarded only after a determination by independent decision of our board of directors, by legal counsel, or by a vote of the stockholders, that the applicable standard of conduct was met by the person to be indemnified.

The circumstances under which indemnification is granted in connection with an action brought on our behalf is generally the same as those set forth above; however, with respect to such actions, indemnification is granted only with respect to expenses actually incurred in connection with the defense or settlement of the action. In such actions, the person to be indemnified must have acted in good faith and in a manner believed to have been in our best interest, and have not been adjudged liable for negligence or misconduct.

Indemnification may also be granted pursuant to the terms of agreements which may be entered in the future or pursuant to a vote of stockholders or directors. The provision cited above also grants us the power to purchase and maintain insurance which protects our officers and directors against any liabilities incurred in connection with their service in such a position, and such a policy may be obtained by us.

We do not have any indemnification agreements with any of our directors or executive officers.

A stockholder's investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers as required by these indemnification provisions. At present, there is no pending litigation or proceeding involving any of our directors, officers or employees regarding which indemnification by us is sought, nor are we aware of any threatened litigation that may result in claims for indemnification.

Disclosure of Commission Position on Indemnification for Securities Act Liabilities

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers or persons controlling the registrant pursuant to the foregoing provisions, the registrant has been informed that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is therefore unenforceable.

ITEM 15. Recent Sales of Unregistered Securities.

The following is a summary of all securities that we have sold within the past three years without registration under the Securities Act:

On February 12, 2014, we issued $1,906,500 in aggregate principal amount of our 6% senior subordinated convertible notes and warrants to purchase a number of shares of our common stock equal to 50% of the shares of our common stock issuable upon conversion of such notes, with an exercise price of $0.23 per share, subject to certain adjustments. As of the issue date, the notes were convertible into an aggregate of 8,289,130 shares of our common stock, and the warrants were exercisable for an aggregate of 4,144,568 shares of our common stock.

On August 8, August 12 and August 16, 2013, we issued an aggregate of 800,002 units consisting of 800,002 shares of our common stock and warrants to purchase an aggregate of 240,001 shares of our common stock, with an exercise price of $0.75 per share, for aggregate proceeds to us of $520,001.

On June 14, 2013, we issued 120,619 shares of our common stock to CardioNova at a price of $0.97 per share, for aggregate proceeds to us of $117,000, in accordance with the terms of our license agreement with CardioNova pertaining to the supply of clinical drug supplies to CardioNova to conduct Phase 1 clinical trials.

On July 18, 20134, we issued 6,456 shares of our common stock valued at $4,200, or $0.65 per share, to one of our directors to settle unpaid fees for services rendered.

On May 22, 2013, we issued 1,997,161 shares of our common stock with an aggregate value of $1,198,297 to CardioNova upon two milestone achievements in the development of protocols and other preparation costs for Phase 1 clinical trials paid for by CardioNova.

On April 25, 2013, we issued 576,907 shares of our common stock upon conversion of $167,303 of principal and accrued interest under an outstanding 2.5% Senior secured Convertible Note at $0.29 per share.

On February 20, 2013, we granted to two service providers options to purchase 800,000 shares of our common stock having a per share exercise price of $0.50.

On February 4, 2013, we issued 112,142 shares of our common stock upon the exercise of a warrant to purchase such shares at an exercise price of $0.223 per share, for aggregate proceeds to us of $25,008, and a director of our company exercised a warrant to purchase 336,427 shares of our common stock at $0.223 per share using a “cashless exercise” feature of the warrant, resulting in the issuance of 186,380 shares of our common stock. 150,047 shares remaining under the warrant were cancelled.

On January 3, 2013, we issued to a service provider a warrant to purchase 50,000 shares of our common stock with an exercise price of $50 per share.

On January 31, 2013, we issued 560,713 shares of our common stock upon the exercise of a warrant to purchase such shares at an exercise price of $0.223 per share, for aggregate proceeds to us of $125,039.

On December 18, 2012, we issued 657,829 shares of our common stock upon conversion of $188,000 of outstanding principal and accrued interest under our senior convertible notes.

On December 4, 2012, we issued 300,000 shares of our common stock to a service provider in consideration of services rendered to us.

On October 23, 2012 we issued 971,155 shares of our common stock upon conversion of $265,587 of outstanding principal and accrued interest under our senior convertible notes.

From October 1 through October 11, 2012, we issued to thirty-four investors, in private placement transactions, an aggregate of 4,480,000 units at $0.50 per unit, for aggregate proceeds to us of $2,061,787. An additional 1,370,000 units were issued to two investors upon conversion of $685,000 of short-term convertible notes issued by us in May 2012. Each unit represents a share of our common stock and a warrant to purchase 0.50 shares of our common stock at an exercise price of $0.625 per share. Commissions of $216,600 were paid to Philadelphia Brokerage Corporation in connection with the private placement and the short-term convertible notes as well as issuance of 99,600 shares of our common stock to Philadelphia Brokerage Corporation and certain principals and employees.

On June 19, 2012, we issued 30,061 shares of our common stock valued at $23,748, or $0.79 per share based on the closing sale price of our common stock on the date of issuance, on satisfaction of accounts payable due to a service provider.

On March 19, 2012 we issued 10,000 shares of our common stock valued at $10,100, or $1.01 per share based on the closing sale price of our common stock on the date of issuance, to a service provider in consideration of services rendered to us.

On February 13, 2012 we issued 50,000 shares of our common stock valued at $60,000, or $1.20 per share based on the closing sale price of our common stock on the date of issuance, to a service provider in consideration of services rendered to us.

On December 22, 2011, we issued 154,639 shares of our common stock to CardioNova for aggregate proceeds to us of $150,000.

From November 16 through December 7, 2011, we issued to five investors, in private placement transactions, an aggregate of 481,819 units at $0.55 per unit, for aggregate proceeds to us of $264,999.90. Each unit represents a share of our common stock and a warrant to purchase 0.30 shares of our common stock at an exercise price of $0.60 per share.

On October 17, 2011, we issued 50,000 shares of our common stock to a service provider in consideration of services rendered to us.

On April 20, April 21, April 25, May 3, May 5, May 9, May 11, May 18 and June 6, 2011, we issued an aggregate of 925,937 units for aggregate proceeds to us of $509,266. The units consist of an aggregate of 925,937 shares of our common stock and warrants to purchase an aggregate of 277,780 shares of our common stock at an exercise price of $0.60 per share.

On March 11, 2011, we issued 25,000 shares of our common stock for gross proceeds of $25,000 to an investor in a private placement transaction. On April 11, 2011, we amended the subscription agreement pursuant to which we sold such shares to provide for the purchase of 45,454 units consisting of 45,454 shares of our common stock and warrants to purchase 13,636 shares of our common stock at an exercise price of $0.60 per share.

We issued the foregoing securities without registration under the Securities Act in reliance upon the exemptions from registration provided under Section 4(2) of the Securities Act and the rules and regulations promulgated thereunder. The foregoing transactions did not involve any public offering; we made no solicitations or advertisements in connection with the issuances; we obtained representations from the recipients regarding their respective investment intent, experience, sophistication and status as an “accredited investor”; and the recipients either received or had access to adequate information about us in order to make an informed investment decision. Except as otherwise disclosed above, no underwriting discounts or commissions were paid in conjunction with the foregoing issuances.

ITEM 16. Exhibits and Financial Statement Schedules.

(a) Exhibits

The exhibits to the registration statement are listed in the attached Exhibit Index and are incorporated herein by reference.

(b) Financial statement schedules

All schedules have been omitted because either they are not required, are not applicable or the information is otherwise set forth in the financial statements and related notes thereto.

ITEM 17. Undertakings.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sells are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the “Calculation of Registration Fee” table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) Each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) That for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(6) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against

such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

(7) The undersigned registrant hereby undertakes that:

(i) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(I) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective; and

(ii) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Irvine, State of California, on March 17, 2014.

ATHERONOVA INC.
(Registrant)

By: /s/ Mark Selawski
Mark Selawski
Chief Financial Officer & Secretary

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Thomas W. Gardner and Mark Selawski, and each of them, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments, including post-effective amendments, to this registration statement, and any registration statement relating to the offering covered by this registration statement and filed pursuant to Rule 462(b) under the Securities Act of 1933, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that each of said attorneys in fact and agents or their substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Thomas W. Gardner	Chairman, Chief Executive Officer and President	
Thomas W. Gardner	(Principal Executive Officer)	March 17, 2014
/s/ Mark Selawski	Chief Financial Officer and Secretary	

Mark Selawski	(Principal Accounting Officer)	March 17, 2014
/s/ Boris Ratiner, M.D.	Director	
Boris Ratiner, M.D.		March 17, 2014
/s/ Chaim Davis Chaim Davis	Director	March 17, 2014
/s/ Gary Freeman Gary Freeman	Director	March 17, 2014
/s/ Alexander Polinsky Alexander Polinsky	Director	March 17, 2014

/s/ Paul DiPerna Paul DiPerna	Director	March 17, 2014
/s/ Johan (Thijs) Spoor Johan (Thijs) Spoor	Director	March 17, 2014
/s/ Fred Knoll Fred Knoll	Director	March 17, 2014

exhibit index

Exhibit Number	Description of Exhibit
1.1 @	Form of Underwriting Agreement between AtheroNova Inc. and Aegis Capital Corp.
2.1	Merger Agreement by and between Trist Holdings, Inc., Z&Z Merger Corporation and Z&Z Medical Holdings, Inc., dated March 26, 2010. Incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on April 1, 2010.
3.1	Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on June 25, 2010.
3.2	Amended and Restated Bylaws. Incorporated by reference to Exhibit 3.2 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on June 23, 2010.
4.1	Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1.
4.2	Amended and Restated Bylaws. Incorporated by reference to Exhibit 3.2.
4.3†	2010 Stock Incentive Plan. Incorporated by reference to Exhibit B to the Definitive Information Statement on Schedule 14C (File No. 000-52315) filed with the Securities and Exchange Commission on June 3, 2010.
4.4	Amendment No. 1 to 2010 Stock incentive Plan. Incorporated by reference to Appendix A to the definitive Proxy Statement on Schedule 14A (File No. 000-52315) filed with the Securities and Exchange Commission on May 9, 2013.
5.1 @	Opinion of Legal Counsel.
10.1	Securities Purchase Agreement dated May 13, 2010, among AtheroNova Inc., W-Net Fund I, L.P., Europa International, Inc. and MKM Opportunity Master Fund, Ltd. Incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on May 20, 2010.
10.2	Security Agreement dated May 13, 2010, among AtheroNova Inc., W-Net Fund I, L.P., Europa International, Inc. and MKM Opportunity Master Fund, Ltd. Incorporated by reference to Exhibit 10.5 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on May 20, 2010.
10.3	IP Security Agreement dated May 13, 2010, among AtheroNova Inc., W-Net Fund I, L.P., Europa International, Inc. and MKM Opportunity Master Fund, Ltd. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on May 20, 2010.
10.4	Form of Promissory Note. Incorporated by reference to Exhibit 10.7 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on May 20, 2010.
10.5	Form of Warrant. Incorporated by reference to Exhibit 10.8 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on May 20, 2010.
10.6 †	Management Consulting Agreement dated August 30, 2010, between AtheroNova Inc. and Thomas W. Gardner. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on September 3, 2010.

10.7 †	Employment Agreement dated August 30, 2010, between AtheroNova Inc. and Mark Selawski. Incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on September 3, 2010.
10.8 *	Stock Purchase Agreement dated November 3, 2011, between the Registrant and OOO CardioNova. Incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q (File No. 000-52315) filed with the Securities and Exchange Commission on November 10, 2011.
10.9 *	License Agreement dated November 4, 2011, between the Registrant, AtheroNova Operations, Inc. and OOO CardioNova. Incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q (File No. 000-52315) filed with the Securities and Exchange Commission on November 10, 2011.
10.10	Securities Purchase Agreement, dated as of May 14, 2012, by and among AtheroNova Inc., ACT Capital Partners, L.P., and Amir L. Ecker. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on May 25, 2012.
10.11	Form of 12% Convertible Note. Incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on May 25, 2012.
10.12	Form of Common Stock Purchase Warrant. Incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on May 25, 2012.
10.13	Subsidiary Guarantee, dated as of May 14, 2012, made by AtheroNova Operations, Inc. in favor of ACT Capital Partners, L.P. and Amir L. Ecker. Incorporated by reference to Exhibit 10.4 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on May 25, 2012.
10.14	Form of Amendment and Exchange Agreement dated June 15, 2012. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on June 20, 2012.
10.15	Form of Second Amended and Restated 2.5% Senior Secured Convertible Note. Incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on June 20, 2012.
10.16	Form of Amended and Restated Common Stock Purchase Warrant. Incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on June 20, 2012.
10.17	Office Lease dated June 15, 2012 between AtheroNova Inc. and TR Dupont Centre LLC. Incorporated by reference to Exhibit 10.4 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on June 20, 2012.
10.18	Form of Subscription Agreement. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on October 5, 2012.
10.19	Form of Common Stock Purchase Warrant. Incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on October 5, 2012.
10.20†	First Amendment to Employment Agreement dated December 4, 2012 and effective August 29, 2012, between AtheroNova Inc. and Mark Selawski. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission on December 6, 2012.

10.21	Form of Subscription Agreement. Incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q (File No. 000-52315) filed with the Securities and Exchange Commission on November 12, 2013.
10.22	Form of Common Stock Purchase Warrant. Incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q (File No. 000-52315) filed with the Securities and Exchange Commission on November 12, 2013.
23.1 #	Consent of Independent Registered Public Accounting Firm.
23.2 @	Consent of Legal Counsel. Incorporated by reference to Exhibit 5.1.
24.1 #	Power of Attorney (included on signature page).
101.INS #	XBRL Instance Document
101.SCH #	Taxonomy Extension Schema Document
101.CAL #	Taxonomy Extension Calculation Linkbase Document
101.DEF #	Taxonomy Extension Definition Linkbase Document
101.LAB #	Taxonomy Extension Labels Linkbase Document
101.PRE #	Taxonomy Extension Presentation Linkbase Document

#Filed herewith.

@ To be filed by amendment.

‡Indicates management contract or compensatory plan.

* The Registrant has omitted portions of the referenced exhibit pursuant to a request for confidential treatment under Rule 406 promulgated under the Securities Act of 1933.