

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549**

**FORM 10-Q**

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended September 30, 2011

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 000-52315

**AtheroNova Inc.**

(Exact Name of Registrant as Specified in Its Charter)

Delaware  
(State or other jurisdiction of  
incorporation or organization)

20-1915083  
(I.R.S. Employer Identification No.)

2301 Dupont Drive, Suite 525, Irvine, CA 92612  
(Address of principal executive offices and zip code)

(949) 476-1100  
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

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 the 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  Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined by Rule 12b-2 of the Exchange Act). Yes  No

As of November 7, 2011 there were 27,753,802 shares of the issuer's common stock, \$0.0001 par value per share, outstanding.

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**Part I – Financial Information**  
**Item 1. Financial Statements**

**ATHERONOVA INC.**  
(A Development Stage Company)  
**Condensed Consolidated Balance Sheets**

| Assets  | September 30,<br>2011<br>(unaudited) | December 31,<br>2010 |
|---|--------------------------------------|----------------------|
| <b>Assets</b>   |                                      |                      |
| <b>Current Assets</b>   |                                      |                      |
| Cash  | \$ 686,783                           | \$ 177,802           |
| Other Current Assets  | 14,139                               | 14,039               |
| Total Current Assets  | 700,922                              | 191,841              |
| Equipment, net  | 4,676                                | 5,521                |
| <b>Total Assets</b>   | <b>\$ 705,598</b>                    | <b>\$ 197,362</b>    |
| <b>Liabilities and Stockholders' Deficiency</b>   |                                      |                      |
| <b>Current Liabilities:</b>   |                                      |                      |
| Accounts payable and accrued expenses   | \$ 288,691                           | \$ 157,665           |
| Interest payable  | 33,613                               | 22,596               |
| Derivative Liability  | 8,952,110                            | 13,697,923           |
| Total Current Liabilities   | 9,274,414                            | 13,878,184           |
| 2.5% Senior secured convertible notes, net of discount  | 338,505                              | 228,298              |
| <b>Commitments and Contingencies</b>  |                                      |                      |
| <b>Stockholders' Deficiency</b>   |                                      |                      |
| Preferred stock \$0.0001 par value, 10,000,000 shares authorized, none outstanding at September 30, 2011 and December 31, 2010                                  | --                                   | --                   |
| Common stock \$0.0001 par value, 100,000,000 shares authorized, 27,547,211 and 23,420,899 outstanding at September 30, 2011 and December 31, 2010, respectively | 2,748                                | 2,337                |
| Additional paid in capital  | 4,629,491                            | 1,931,340            |
| Deficit accumulated during the development stage  | (13,539,560)                         | (15,842,797)         |
| Total stockholders' deficiency  | (8,907,321)                          | (13,909,120)         |
| <b>Total Liabilities and Stockholders' Deficiency</b>   | <b>\$ 705,598</b>                    | <b>\$ 197,362</b>    |

See accompanying notes to condensed consolidated financial statements.

**ATHERONOVA INC.**  
(A Development Stage Company)  
**Condensed Consolidated Statements of Operations**  
(Unaudited)  
For the three and nine month periods ended September 30, 2011 and 2010,  
And for the period from December 13, 2006 (Inception) through September 30, 2011

|  | Three months ended<br>September 30, |                       | Nine months ended<br>September 30, |                       | Cumulative<br>From Inception |
|--|-------------------------------------|-----------------------|------------------------------------|-----------------------|------------------------------|
|  | 2011                                | 2010                  | 2011                               | 2010                  |                              |
| <b>Revenue, net</b>                                | \$ 0                                | \$ 0                  | \$ 0                               | \$ 0                  | \$ 0                         |
| <b>Operating expenses:</b>                         |                                     |                       |                                    |                       |                              |
| Research and development                           | 88,270                              | --                    | 271,645                            | 110,450               | 763,180                      |
| General and administrative expenses                | 797,078                             | 594,028               | 1,571,334                          | 987,915               | 3,474,001                    |
| Impairment charge-intellectual property            | --                                  | 572,868               | --                                 | 572,868               | 572,868                      |
| <b>Total operating expenses</b>                    | <b>885,348</b>                      | <b>1,166,896</b>      | <b>1,842,979</b>                   | <b>1,671,233</b>      | <b>4,810,049</b>             |
| <b>Loss from operations</b>                        | <b>(885,348)</b>                    | <b>(1,166,896)</b>    | <b>(1,842,979)</b>                 | <b>(1,671,233)</b>    | <b>(4,810,049)</b>           |
| <b>Other income / (expenses):</b>                  |                                     |                       |                                    |                       |                              |
| Other income (expense)                             | 36                                  | 676                   | 165                                | (46,708)              | 3,281                        |
| Merger-related expenses                            | --                                  | --                    | --                                 | (323,294)             | (323,294)                    |
| Cancellation of related-party debt                 | --                                  | --                    | --                                 | --                    | 100,000                      |
| Interest expense                                   | (401,446)                           | (196,810)             | (594,922)                          | (233,060)             | (944,830)                    |
| Private Placement Costs                            | --                                  | --                    | --                                 | (2,042,348)           | (2,148,307)                  |
| Gain on extinguishment of derivative liability     | 811,393                             | --                    | 811,393                            | --                    | 811,393                      |
| Change in fair value of derivative liabilities     | (3,469,451)                         | (412,361)             | 3,934,420                          | (412,361)             | (6,221,155)                  |
| <b>Net income (loss) before income taxes</b>       | <b>(3,944,816)</b>                  | <b>(1,775,391)</b>    | <b>2,308,077</b>                   | <b>(4,729,004)</b>    | <b>(13,532,961)</b>          |
| Provision for income taxes                         | --                                  | --                    | 4,840                              | 1,759                 | 6,599                        |
| <b>Net income (loss)</b>                           | <b>\$ (3,944,816)</b>               | <b>\$ (1,775,391)</b> | <b>\$ 2,303,237</b>                | <b>\$ (4,730,763)</b> | <b>\$ (13,539,560)</b>       |
| <b>Basic income (loss) per share</b>               | <b>\$ (0.15)</b>                    | <b>\$ (0.08)</b>      | <b>\$ 0.09</b>                     | <b>\$ (0.21)</b>      |                              |
| <b>Diluted income (loss) per share</b>             | <b>\$ (0.15)</b>                    | <b>\$ (0.08)</b>      | <b>\$ 0.08</b>                     | <b>\$ (0.21)</b>      |                              |
| <b>Basic weighted average shares outstanding</b>   | <b>26,503,747</b>                   | <b>22,785,012</b>     | <b>24,729,573</b>                  | <b>22,243,571</b>     |                              |
| <b>Diluted weighted average shares outstanding</b> | <b>26,503,747</b>                   | <b>22,785,012</b>     | <b>27,665,915</b>                  | <b>22,243,571</b>     |                              |

See accompanying notes to condensed consolidated financial statements.

**ATHERONOVA INC.**  
(A Development Stage Company)  
**Condensed Consolidated Statements of Stockholders' Equity (Deficiency)**  
**(Unaudited)**  
**For the period from December 13, 2006 (Inception) through September 30, 2011**

| Description   | Common Stock<br>Shares | Common<br>Stock<br>Amount | Additional Paid-<br>in Capital | Deficit Accumulated<br>During Development<br>Stage | Total Stockholders'<br>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<br>at \$0.223 per share   | 1,010,132              | 101                       | 224,899                        | --   | 225,000                                 |
| Net loss  | --                     | --                        | --                             | (173,622)  | (173,622)                               |
| Balance – December 31, 2008   | 20,243,161             | 2,024                     | 222,976                        | (173,622)  | 51,378                                  |
| Issuance of Common Stock for Cash<br>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  | --                     | --                        | --                             | (12,323)   | (12,323)                                |
| Balance – December 31, 2009   | 20,692,108             | 2,069                     | 372,931                        | (185,945)  | 189,055                                 |
| Issuance of common stock for Cash<br>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 warrants issued for services  | --                     | --                        | 518,000                        | --   | 518,000                                 |
| Fair value of vested options  | --                     | --                        | 287,355                        | --   | 287,355                                 |
| Fair value of common stock issued for services  | 466,570                | 47                        | 140,453                        | --   | 140,500                                 |
| Contribution of stockholder notes payable to capital  | --                     | --                        | 200,000                        | --   | 200,000                                 |
| Common stock issued in reverse merger   | 607,647                | 56                        | 1,225                          | --   | 1,281                                   |
| Common stock issued upon conversion of notes payable  | 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<br>at \$0.55 per share  | 2,518,421              | 252                       | 1,384,879                      | --   | 1,385,131                               |
| Fair value of vested options  | --                     | --                        | 459,224                        | --   | 459,224                                 |
| Fair value of common stock and warrants purchased by<br>employees and vendors in excess of market price | --                     | --                        | 309,426                        | --   | 309,426                                 |
| Fair value of common stock and warrants issued to settle<br>accounts payable                            | 22,727                 | 2                         | 48,611                         | --   | 48,613                                  |
| Common stock issued upon conversion of notes payable  | 1,585,164              | 157                       | 473,541                        | --   | 473,698                                 |
| Fair value of warrants issued for services  | --                     | --                        | 22,470                         | --   | 22,470                                  |
| Net income  | --                     | --                        | --                             | 2,303,237  | 2,303,237                               |
| <b>Balance – September 30, 2011</b>   | <b>27,547,211</b>      | <b>\$ 2,748</b>           | <b>\$ 4,629,491</b>            | <b>\$ (13,539,560)</b>                             | <b>\$ (8,907,321)</b>                   |

See accompanying notes to condensed consolidated financial statements.

**ATHERONOVA INC.**  
(A Development Stage Company)  
**Condensed Consolidated Statements of Cash Flows**  
(Unaudited)

**For the nine month periods ended September 30, 2011 and 2010,  
And for the period from December 13, 2006 (Inception) through September 30, 2011**

|  | <u>Nine months ended September 30,</u> |                    | <u>Cumulative From</u> |
|--|--|--------------------|------------------------|
|  | <u>2011</u>                            | <u>2010</u>        | <u>Inception</u>       |
| <b>Operating Activities:</b>   |  |                    |                        |
| Net income (loss)  | \$ 2,303,237                           | \$ (4,730,763)     | \$ (13,539,560)        |
| Adjustments to reconcile net income (loss) to net cash used in operating activities: |  |                    |                        |
| Loss on settlement of payables   | 36,113                                 | --                 | 36,113                 |
| Amortization of debt discount  | 570,808                                | 218,470            | 897,155                |
| Depreciation   | 1,882                                  | 12,009             | 3,430                  |
| Stock based compensation   | 791,111                                | 473,628            | 1,786,965              |
| Impairment charge-intellectual property  | --                                     | 572,867            | 572,867                |
| Cost of private placement  | --                                     | 2,042,348          | 2,148,307              |
| Gain on extinguishment of debt   | (811,393)                              | --                 | (811,393)              |
| Change in fair value of derivative liabilities                                       | (3,934,420)                            | 412,361            | 6,221,155              |
| Cancellation of debt   | --                                     | --                 | (100,000)              |
| Changes in operating assets and liabilities:   |  |                    |                        |
| Other current assets   | (100)                                  | (81,022)           | (14,139)               |
| Accounts payable and accrued expenses  | 167,649                                | (33,697)           | 447,910                |
| <b>Net cash used in operating activities</b>   | <b>(875,113)</b>                       | <b>(1,113,799)</b> | <b>(2,351,190)</b>     |
| <b>Investing Activities</b>  |  |                    |                        |
| Purchase of equipment  | (1,037)                                | (7,069)            | (8,106)                |
| Investment in intellectual property  | --                                     | --                 | (372,867)              |
| Cash received from reverse merger  | --                                     | --                 | 1,281                  |
| <b>Net cash used in investing activities</b>   | <b>(1,037)</b>                         | <b>(7,069)</b>     | <b>(379,692)</b>       |
| <b>Financing Activities</b>  |  |                    |                        |
| Proceeds from issuance of common stock   | 1,385,131                              | 225,000            | 2,022,659              |
| Proceeds from sale of 2.5% senior secured convertible notes, net                     | --                                     | 1,395,601          | 1,395,006              |
| <b>Net cash provided by financing activities</b>                                     | <b>1,385,131</b>                       | <b>1,620,601</b>   | <b>3,417,665</b>       |
| <b>Net change in cash</b>  | <b>508,981</b>                         | <b>499,733</b>     | <b>686,783</b>         |
| <b>Cash - beginning balance</b>  | <b>177,802</b>                         | <b>28,047</b>      | <b>--</b>              |
| <b>Cash - ending balance</b>   | <b>\$ 686,783</b>                      | <b>\$ 527,780</b>  | <b>\$ 686,783</b>      |
| <b>Supplemental disclosure of cash flow information:</b>                             |  |                    |                        |
| Cash paid for income taxes   | \$ 4,840                               | \$ 1,759           | \$ 6,599               |
| <b>Supplemental disclosure of non-cash investing and financing transactions:</b>     |  |                    |                        |
| Stockholder notes issued in exchange for intellectual property                       | \$ --                                  | \$ --              | \$ 200,000             |
| Conversion of convertible notes payable and accrued interest to equity               | \$ 473,707                             | \$ --              | \$ 572,721             |
| Derivative liability created on issuance of convertible notes and warrants created   | \$ --                                  | \$ 1,500,000       | \$ 1,500,000           |
| Reclass of accounts payable to related party notes                                   | \$ --                                  | \$ --              | \$ 100,000             |
| Common stock issued to settle accounts payable                                       | \$ 12,500                              | \$ --              | \$ 12,500              |

See accompanying notes to condensed consolidated financial statements.

**ATHERONOVA INC.**  
(A Development Stage Company)  
**Notes to Condensed Consolidated Financial Statements**  
**Three and Nine Months Ended September 30, 2011 and 2010**  
(Unaudited)

The accompanying condensed consolidated financial statements of AtheroNova Inc. and subsidiary (“AtheroNova,” “we,” “us,” “our” and “our Company”) have been prepared in accordance with accounting principles generally accepted in the United States of America for interim financial information and the rules and regulations of the Securities and Exchange Commission (“SEC”). Accordingly, the unaudited condensed consolidated financial statements do not include all information and footnotes required by accounting principles generally accepted in the United States of America for complete annual financial statements. In the opinion of management, the accompanying unaudited condensed consolidated financial statements reflect all adjustments, consisting of only normal recurring adjustments, considered necessary for a fair presentation. Interim operating results are not necessarily indicative of results that may be expected for the year ending December 31, 2011 or for any other interim period. These unaudited condensed consolidated financial statements should be read in conjunction with the Company’s audited financial statements as of and for the year ended December 31, 2010, which are included in the Company’s Report on Form 10-K for such year filed on March 31, 2011. The condensed consolidated balance sheet as of December 31, 2010 has been derived from the audited financial statements included in the Form 10-K for that year.

**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 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 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. The Company will continue to be a development stage company for the foreseeable future. The Company has entered into contracts with two research sites for its second pre-clinical trial.

Immediately prior to the Merger, AtheroNova had 107,272,730 shares of its common stock issued and outstanding. In connection with the Merger, AtheroNova issued 88,575,048 shares of its 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 AtheroNova Super-Voting Common Stock. Upon the effectiveness of the 1-for-200 reverse stock split all shares of AtheroNova Super-Voting Common Stock were automatically converted on a 50-to-1 basis into AtheroNova common stock, resulting in the issuance of 22,143,763 shares of AtheroNova common stock to the former holders of AtheroNova Operation’s common stock, and the outstanding shares of common stock held by AtheroNova’s existing stockholders were combined into 607,647 shares of AtheroNova common stock.

Since former holders of AtheroNova Operation's common stock owned, after the Merger, approximately 98% of AtheroNova's shares of common stock, and as a result of certain other factors, including that all members of the Company's 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 condensed 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 prior to the completion of the merger. Common stock and the corresponding capital amounts of the Company pre-merger have been retroactively restated as capital stock shares reflecting the exchange ratio in the merger and subsequent 1-for-200 reverse stock split effected on June 23, 2010. In conjunction with the Merger, the Company assumed liabilities and incurred costs of \$323,294 which have been reflected as costs of the reverse merger in the 2010 statement of operations.

## **2. BASIS OF PRESENTATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

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

### *Use of Estimates*

These unaudited condensed consolidated financial statements should be read in conjunction with the audited financial statements and notes thereto included in AtheroNova's Annual Report on Form 10-K filed with the SEC on March 31, 2011. 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 condensed 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 the Company's condensed consolidated financial statements relate to the valuation of long-lived assets, accrued other liabilities, and valuation assumptions related to share based payments and derivative liability.

### *Going Concern*

The accompanying condensed consolidated financial statements have been prepared under the assumption that the Company will continue as a going concern. Such assumption contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has a stockholders deficiency of \$8,907,321 at September 30, 2011, and has incurred recurring losses from operations since inception. These factors, among others, raise substantial doubt about the Company's ability to continue as a going concern. The condensed consolidated financial statements do not include any adjustments that might be necessary should the Company be unable to continue as a going concern.

Management is in the process of concluding an offering to accredited investors units consisting of one share of the Company's common stock and a warrant to purchase 0.3 of a share of the Company's common stock, at a per unit price of \$0.55, to raise funds necessary for general corporate and research costs. The offering has raised \$1,385,131 as of September 30, 2011 (see Note 5) and an additional \$80,000 was raised after September 30, 2011. The conclusion of this offering should give the company sufficient capital to fund operations through the end of the first quarter of 2012. Management is currently evaluating several future funding sources, including the commencement of a new subscription offering and various private placement opportunities. There can be no assurances that sufficient subsequent funding, if any at all, will be raised by future offerings or private placements or that the cost of such funding 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 to continue the ongoing

process of capital development sufficient enough to cover negative cash flows expected in future periods and will continue to do so in the coming months.

### ***Principles of Consolidation***

The condensed consolidated financial statements include the accounts of the Company and its majority-owned subsidiary. All significant intercompany transactions and balances have been eliminated in consolidation.

### ***Earnings and Loss per Share***

The Company's 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 EPS is similar to basic EPS but presents the dilutive effect on a per share basis of potential common shares (e.g., warrants and options) as if they had been converted at the beginning of the periods presented, or issuance date, if later. 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.

A reconciliation of basic and diluted shares for the three months ended September 30, 2011 and 2010 follows:

|   | September 30,<br><u>2011</u> | September 30,<br><u>2010</u> |
|---|------------------------------|------------------------------|
| Average common shares outstanding-basic | 26,503,747                   | 22,785,012                   |
| Effect of dilutive securities-          |                              |                              |
| Warrants                                | --                           | --                           |
| Employee and director stock options     | <u>--</u>                    | <u>--</u>                    |
| Average diluted shares                  | \$ <u>26,503,747</u>         | \$ <u>22,785,012</u>         |

A reconciliation of basic and diluted shares for the nine months ended September 30, 2011 and 2010 follows:

|   | September 30,<br><u>2011</u> | September 30,<br><u>2010</u> |
|---|------------------------------|------------------------------|
| Average common shares outstanding-basic | 24,729,573                   | 22,243,571                   |
| Effect of dilutive securities-          |                              |                              |
| Warrants                                | 2,677,985                    | --                           |
| Employee and director stock options     | <u>258,357</u>               | <u>--</u>                    |
| Average diluted shares                  | \$ <u>27,665,915</u>         | \$ <u>22,243,571</u>         |

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

Warrants, options and other potentially dilutive securities are antidilutive and excluded from the dilutive calculations when their exercise or conversion price exceeds the average stock market price during the period or the effect would be anti-dilutive when applied to a net loss during the periods presented. The following table sets forth the shares excluded from the diluted calculation for the three month periods presented as follows:

|                                     | September 30,<br><u>2011</u> | September 30,<br><u>2010</u> |
|-------------------------------------|------------------------------|------------------------------|
| Convertible notes                   | 3,626,409                    | 4,199,358                    |
| Warrants                            | 6,058,198                    | 5,497,355                    |
| Employee and director stock options | <u>3,024,498</u>             | <u>549,498</u>               |
| Total potentially dilutive shares   | \$ <u><u>12,709,105</u></u>  | \$ <u><u>10,246,211</u></u>  |

Such securities could potentially dilute earnings per share in the future.

#### ***Derivative financial instruments***

The Company evaluates all of its 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, the Company uses the weighted-average Black-Scholes-Merton pricing 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.

#### ***Fair value of financial instruments***

Effective January 1, 2008, fair value measurements are determined by the Company's 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 the Company's 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 the Company's assumptions.

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

The following table presents certain investments and liabilities of the Company's financial assets measured and recorded at fair value on the Company's condensed consolidated balance sheets on a recurring basis and their level within the fair value hierarchy as of September 30, 2011.

|                                    | Level 1 | Level 2 | Level 3      | Total        |
|------------------------------------|---------|---------|--------------|--------------|
| Fair value of Derivative Liability | \$ --   | \$ --   | \$ 8,952,110 | \$ 8,952,110 |

At September 30, 2011 and December 31, 2010, the fair values of cash and cash equivalents, and accounts payable approximate their carrying values.

### ***Recently Issued Accounting Standards***

In May 2011, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2011-4, which amends the Fair Value Measurements Topic of the Accounting Standards Codification (ASC) to help achieve common fair value measurement and disclosure requirements in U.S. GAAP and IFRS. ASU No. 2011-4 does not require additional fair value measurements and is not intended to establish valuation standards or affect valuation practices outside of financial reporting. The ASU is effective for interim and annual periods beginning after December 15, 2011. The Company will adopt the ASU as required. The ASU will affect the Company's fair value disclosures, but will not affect the Company's results of operations, financial condition or liquidity.

In June 2011, the FASB issued ASU No. 2011-5, which amends the Comprehensive Income Topic of the ASC. The ASU eliminates the option to present the components of other comprehensive income as part of the statement of changes in shareholders' equity, and instead requires consecutive presentation of the statement of net income and other comprehensive income either in a continuous statement of comprehensive income or in two separate but consecutive statements. ASU No. 2011-5 is effective for interim and annual periods beginning after December 15, 2011. The Company will adopt the ASU as required. It will have no effect on the Company's results of operations, financial condition or liquidity.

In September 2011, the FASB issued ASU 2011-08, "Testing Goodwill for Impairment", an update to existing guidance on the assessment of goodwill impairment. This update simplifies the assessment of goodwill for impairment by allowing companies to consider qualitative factors to determine whether it is more likely or not that the fair value of a reporting unit is less than its carrying amount before performing the two step impairment review process. It also amends the examples of events or circumstances that would be considered in a goodwill impairment evaluation. The amendments are effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011. Early adoption is permitted. The Company is currently evaluating the effects adoption of ASU 2011-08 may have on its goodwill impairment testing.

Other recent accounting pronouncements issued by the FASB (including its Emerging Issues Task Force), the AICPA, and the SEC 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 September 30, 2011 and December 31, 2010:

|                                | September 30,<br>2011<br>(Unaudited) | December 31,<br>2010 |
|--------------------------------|--------------------------------------|----------------------|
| Convertible Notes Payable      | \$ 955,351                           | \$ 1,401,951         |
| Less valuation Discount        | <u>(616,846)</u>                     | <u>(1,173,653)</u>   |
| Convertible Notes Payable, net | \$ <u>338,505</u>                    | \$ <u>228,298</u>    |

On May 13, 2010, we entered into a Securities Purchase Agreement with W-Net, Europa and MKM pursuant to which the Purchasers purchased from us (i) 2.5% Senior Secured Convertible 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 1,908,797 shares of our common stock at an exercise price equal to approximately \$0.39 per share, subject to adjustment. 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 \$73,294 of other expenses incurred by them and our company in connection with the Merger and the Capital Raise Transaction. Such costs have been reflected as costs of the reverse merger in the accompanying statement of operations for the nine-month period ended September 30, 2010. 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 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. If there was an uncured event of default (as defined in the Notes), the holder of each Note could declare the entire principal and accrued interest amount immediately due and payable. Default interest would accrue after an event of default at an annual rate of 12%. If there was an acceleration, a mandatory default amount equal to 120% of the unpaid Note principal plus accrued interest could 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 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 Notes or such agreements, the 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 guaranteed all of our obligations under the Notes.

Each Original Note was convertible at any time into common stock at a specified conversion price, which was approximately \$0.39 per share, subject to adjustment. On July 6, 2011, the Company entered into an 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 Notes. The Notes have the same terms as the Original Notes (as described below), except that each Note is convertible at any time into common stock at a per share conversion price of \$0.29, subject to adjustment.

The 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 Note issuance date 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 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 Note conversion price and the Warrant exercise price are subject to specified adjustments for certain changes in the numbers of outstanding shares of our common stock, including conversions or exchanges of such. If additional shares of our capital stock are issued, except in specified exempt issuances, for consideration which is less than the then existing Note conversion or Warrant exercise price, then such conversion or warrant price will be reduced by anti-dilution adjustments. For the first \$400,000 of such “Dilutive Issuances,” the reduction will be made on a weighted average basis, taking into account the relative magnitudes of any Dilutive Issuance relative to the total number of outstanding shares. However, any further Dilutive Issuance would be subject to a more

detrimental “full ratchet” adjustment that generally reduces the conversion or exercise price to equal the price in the Dilutive Issuance, regardless of the size of the Dilutive Issuance (see related accounting treatment for the Notes and Warrants below).

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

Under the Securities Purchase Agreement, as amended, if we meet three specified operating benchmarks during the first twenty-four months after the closing of the first Original Note purchase, an additional \$1,500,000 in Note purchases (without Warrants) can be requested by us from the Purchasers. The determination of whether we have met the benchmarks is solely at the discretion of the Purchasers. If the benchmarks are determined to have been achieved, then we can require the Purchasers to make the additional \$1,500,000 of Note purchases. If such benchmarks are not attained in the 24-month period, then the Purchasers, in their discretion, during the next two months may elect to purchase up to \$1,500,000 of Notes (without Warrants) having an initial conversion price which is 25% higher than the conversion price in the Notes.

Each of the Notes and Warrants includes 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. The Company 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, the Company determined that as the conversion price of the Notes and the strike price of the Warrants may fluctuate based on the occurrence of future offerings or events, such prices were not fixed amounts. As a result, the Company determined that the conversion features of the Notes and the Warrants are not considered indexed to the Company’s own stock and characterized the value of the Notes and the Warrants as derivative liabilities upon issuance.

The Company determined that the fair value of the conversion feature at issuance was \$2,370,245, and that the fair value of the warrant liability at issuance was \$1,172,103, based upon a weighted average Black-Sholes-Merton calculation. The Company recorded 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 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 Company has amortized \$883,154 of the valuation discount of which, \$556,807 was recorded during the period ended September 30, 2011. The remaining unamortized valuation discount of \$616,846 as of September 30, 2011 has been offset against the face amount of the Notes for financial statement purposes. The fair value of the derivative liabilities as of September 30, 2011 was \$8,952,110 (see Note 4).

From issuance through September 30, 2011, the Purchasers exercised their option to convert a portion of the Original 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 nine months ended September 30, 2011, principal in 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, the Company 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 these 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 accompanying statement of operations. The aggregate balance of the Original Notes outstanding as of September 30, 2011 amounted to \$955,351.

#### **4. DERIVATIVE LIABILITY**

In April 2008, the FASB issued a pronouncement that 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 will no longer 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 stock of the Company contain 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 Notes and the Warrants issued to W-Net, Europa and MKM contained such provisions and recorded such instruments as derivative liabilities. Derivative liabilities were valued using the weighted-average Black-Scholes-Merton option pricing model, which approximates the Monte Carlo and other bi-nominal valuation techniques, with the following assumptions:

|   | September 30,<br>2011 | December 31,<br>2010 |
|---|-----------------------|----------------------|
|   | (Unaudited)           |                      |
| <u>Conversion feature :</u>               |                       |                      |
| Risk-free interest rate                   | 0.42%                 | 2.01%                |
| Expected volatility                       | 136%                  | 150%                 |
| Expected life (in years)                  | 2.63 years            | 3.37 years           |
| Expected dividend yield                   | 0.00%                 | 0.00%                |
| <u>Warrants :</u>                         |                       |                      |
| Risk-free interest rate                   | 0.42%                 | 2.01%                |
| Expected volatility                       | 136%                  | 150%                 |
| Expected weighted average life (in years) | 2.63 years            | 3.37 years           |
| Expected dividend yield                   | 0.00%                 | 0.00%                |
| <u>Fair Value :</u>                       |                       |                      |
| Conversion feature                        | \$ 5,890,341          | \$ 9,177,865         |
| Warrants                                  | 3,061,769             | 4,520,058            |
|   | <u>\$ 8,952,110</u>   | <u>\$ 13,367,923</u> |

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

The Company measured the aggregate fair value of the Original Notes and the Warrants issued on May 13, 2010 as \$3,542,348. The value of the derivative liability at the date of issuance of \$3,542,348 in excess of the Original Notes payable with a face amount of \$1,500,000 was \$2,042,348, and such amount was recognized in the statements of operations for the three- and nine-month periods ended September 30, 2010 as a cost of the private placement. The Company measured the aggregate fair value of the Original Notes and the Warrants on December 31, 2010 at an aggregate value of \$13,367,923. As of September 30, 2011, the Company re-measured the remaining derivative liabilities and determined the aggregate fair value to be \$8,952,110. The Company recorded the change in fair value of the derivative liabilities of \$3,934,420 in the accompanying statement of operations for the nine months ending September 30, 2011.

For the three months ended September 30, 2011, the Company recorded a gain on the extinguishment of derivative liability of \$811,393 due to the conversion of principal balance of convertible notes of \$446,600.

## **5. STOCKHOLDERS' DEFICIENCY**

### **Common Stock**

#### **Sale of common stock**

During the nine months ended September 30, 2011, the Company sold 2,518,421 units for \$0.55 per unit, each unit consisting of one share of common stock and a warrant to purchase .30 shares of common stock for up to three years at \$0.60 per share, to accredited investors, resulting in proceeds to the Company of \$1,385,131. In connection with such sales, warrants to purchase 711,887 shares of common stock were issued to these same purchasers. There were no commissions paid with respect to these sales.

Certain of these unit sales were made to existing employees, officers and vendors. Included in these totals was the sale of 324,407 units (representing 324,407 common shares and warrants to purchase an additional 97,323 common shares) to officers and vendors to the Company. The Company determined that it was appropriate to recognize compensation expense of \$223,892 for the differential of the purchase price to the open market price of each respective purchase on its date of execution. Additionally, the associated warrants resulted in recognition of additional compensation expenses of \$85,525 which were valued using the Black-Scholes-Merton valuation model with the following assumptions: risk free interest rate of 0.25 – 0.56%, dividend yield of 0%, volatility factors of the expected market price of common stock of 138%, and an expected life of 1.5 years. The aggregate amount of \$309,417 has been reflected as additional compensation in the accompanying September 30, 2011 statement of operations.

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

#### **Common stock issued to settle payables**

On September 30, 2011, we issued 22,727 units, consisting of 22,727 shares of our common stock and a warrant, having a three year term and an exercise price of \$0.60 per share, to purchase 6,818 shares of our common stock in exchange for cancellation of \$12,500 of accounts payable for prior services rendered. The Company recognized a cost of \$36,113 in the accompanying September 30, 2011 statement of operations upon settlement of this payable relating to the difference between the fair value of the units issued.

### **Stock Options**

The Company has a stockholder-approved stock incentive plan for employees under which it has granted stock options. In May 2010, the Company 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 the Company's common stock. The awards have a maximum term of 10 years and vest over a period determined by the Company's Board of Directors and are issued at an exercise price determined by the Board of Directors. Options issued under the 2010 Plan will have an exercise price equal to or greater than the fair market value of a share of the Company's common stock at the date of grant. The 2010 Plan expires on May 20, 2020 as to any further granting of options.

During the period ended September 30, 2011, options to purchase 162,500 shares of the Company's common stock were granted to employees under the 2010 Plan. The options vest 25% upon issuance, and then vest 25% on each anniversary date thereafter. The options have an exercise price of \$1.01 per share and expire on the 7<sup>th</sup> anniversary of the date of grant.

On June 1, 2011, the Company entered into an agreement with a consultant to purchase 50,000 shares of common stock at \$1.01, which vest over a one year period. The company is valuing the vested options at each reporting date in accordance with the current accounting guidance which require option awards issued to non-employees be based upon the current market price as the services are performed using an option pricing model.

On June 1, 2011, the Company entered into an agreement with a consultant to perform certain development and regulatory activities. Under the terms of the agreement, the company issued to the consultant an option to purchase 500,000 shares of our common stock at \$1.01 per share that vests over 48 months starting July 2011. The company is valuing the vested options at each reporting date in accordance with the current accounting guidance which require option awards issued to non-employees be based upon the current market price as the services are performed using an option pricing model. As of September 30, 2011 a total of 31,250 option shares are vested with a fair value of \$52,436, which was expensed during the period.

In addition to the above, an additional 1,500,000 option shares were committed to the consultant under a development plan calling for achievement of twelve (12) milestones set forth by the Company. Upon achievement of these various milestones, the Company will be obligated to grant additional stock options of varying amounts. Once the options are granted, the options will vest on a monthly basis for a period of four years. In case the consultant terminates the relationship with the Company during the vesting period, any unvested options will be forfeited. As of September 30, 2011, the consultant accomplished two (2) milestones and was granted total options of 150,000, of which 3,125 shares vested on October 2, 2011. Total fair value of the options vested amounted to approximately \$5,000.

A summary of the status of the Company's stock options as of September 30, 2011 and changes during the period then ended is presented below:

|   | Shares           | Weighted<br>Average<br>Exercise<br>Price | Weighted<br>Average<br>Remaining<br>Contractual<br>Term (years) | Aggregate<br>Intrinsic<br>Value |
|---|------------------|--|---|---------------------------------|
| Outstanding at December 31, 2010  | 2,199,498        | \$ 0.878                                 | 6.852   |                                 |
| Granted   | 862,500          | \$ 1.01                                  | 6.72  |                                 |
| Exercised   | --               | --                                       | --  |                                 |
| Cancelled   | (37,500)         | 1.11                                     | --  |                                 |
| Outstanding at September 30, 2011   | <u>3,024,498</u> | <u>\$ 0.953</u>                          | <u>6.001</u>  | <u>\$ 2,600,558</u>             |
| Exercisable at September 30, 2011   | <u>807,601</u>   | <u>\$ 0.882</u>                          | <u>5.779</u>  | <u>\$ 751,518</u>               |
| Weighted-average fair value of options granted during the three month period ended September 30, 2011 | \$ 0.870         |  |   |                                 |

During the three and nine months ended September 30, 2011, the Company recognized \$165,121 and \$459,224, respectively, of compensation costs related to the vesting of these options. As of September 30, 2011, the total compensation cost related to nonvested option awards not yet recognized is \$2,397,843. The weighted average period over which it is expected to be recognized is approximately 3.50 years. The intrinsic value of the shares outstanding at September 30, 2011 was \$2,600,558.

To compute compensation expense, the Company estimated the fair value of each option award on the date of grant using the Black-Scholes-Merton option pricing model for employees, and calculated the fair value of each

option award at the end of the period for non-employees. The Company based the expected volatility assumption on a volatility index of peer companies as the Company did not have sufficient market information to estimate the volatility of its own stock. The expected term of options granted represents the period of time that options are expected to be outstanding. The Company estimated the expected term of stock options by using the simplified method. The expected forfeiture rates are based on the historical employee forfeiture experiences. To determine the risk-free interest rate, the Company utilized the U.S. Treasury yield curve in effect at the time of grant with a term consistent with the expected term of the Company's awards. The Company has not declared a dividend on its common stock since its inception and has no intentions of declaring a dividend in the foreseeable future and therefore used a dividend yield of zero.

The following table shows the weighted average assumptions the Company used to develop the fair value estimates for the determination of the compensation charges in the three and nine months ended September 30, 2011 and 2010:

|                          | Three months ended September 30, |       | Nine months ended September 30, |       |
|--------------------------|----------------------------------|-------|---------------------------------|-------|
|                          | 2011                             | 2010  | 2011                            | 2010  |
| Expected volatility      | 138%                             | 138%  | 138%                            | 138%  |
| Dividend yield           | --                               | --    | --                              | --    |
| Expected term (in years) | 1.5-6.25                         | 6.25  | 6.25                            | 6.25  |
| Risk-free interest rate  | 1.41%                            | 1.92% | 2.19%                           | 1.92% |

#### Warrants

On March 29, 2011, we issued warrants to an advisor to the Company to purchase 21,000 shares of our common stock. The warrants vested over a three month period, have 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 \$22,470 with the following assumptions: risk free interest rate of 2.25%, dividend yield of 0%, volatility factors of the expected market price of common stock of 239%, and an expected life of 3 years.

During the nine months ended September 30 2011, we issued a total 725,523 fully-vested warrants to accredited investors who purchased common stock in the subscription offering. These warrants are exercisable for three years from the date of issuance at an exercise price of \$0.60 per share. We also issued 6,818 warrants as a part of our agreement at settle \$12,500 of accounts payable.

As of September 30, 2011 there are warrants to purchase 6,058,198 shares of our common stock outstanding with expiration dates ranging from February 2013 through December 2015 and exercise prices ranging from \$0.22 to \$1.64. A summary of the status of our warrants as of September 30, 2011 and changes during the period then ended is presented below:

|  | Shares           | Weighted<br>average<br>exercise<br>price | Weighted<br>Average<br>Remaining<br>Contractual<br>Term (years) | Aggregate<br>Intrinsic<br>Value |
|--|------------------|--|---|---------------------------------|
| Outstanding at December 31, 2010   | 5,304,857        | \$ 0.338                                 | 3.664   | 11,471,264                      |
| Granted  | 753,341          | \$ 0.597                                 | 2.862   | 906,109                         |
| Exercised  | --               | --                                       | --  | --                              |
| Cancelled  | --               | --                                       | --  | --                              |
| Outstanding at September 30, 2011  | <u>6,058,198</u> | <u>\$ 0.370</u>                          | <u>2.907</u>  | <u>\$ 8,663,973</u>             |
| Exercisable at September 30, 2011  | <u>6,058,198</u> | <u>\$ 0.370</u>                          | <u>2.907</u>  | <u>\$ 8,663,973</u>             |
| Weighted-average fair value of warrants granted during the three month period ended September 30, 2011 | \$ 0.600         |  |   |                                 |

## 6. COMMITMENTS

At present the Company has commitments for two research and development projects for its second pre-clinical trials. The first agreement, with the University of California, has completed the laboratory segment of the project and should be in process of issuing the final analytic reports. Amendment #1 to the agreement, dated September 22, 2011, added serum analytic work on samples provided by Cedars-Sinai for an additional \$4,620, increasing the final amount due under the agreement to \$43,787.

The second commitment for research and development projects, with the Cedars-Sinai Medical Center, has also completed the laboratory segment of the project and completion of the data analysis and publishable manuscript are expected to be during the 4<sup>th</sup> quarter of 2011. Additional progress payments still due at various dates dependent upon the stages of completion of the project total \$137,583.

The Company has agreed to a consulting contract with its drug development consultant which calls for payments of certain achievement cash bonuses as well as future stock option grants based on attainment of various development milestones. To date, cash bonuses of \$10,000 and stock options to purchase 150,000 shares of common stock, subject to a vesting schedule, have been issued after satisfaction of several goals during the current period. If all remaining development milestones are met, cash bonuses of \$140,000 will be paid and additional stock options to purchase an additional 1,350,000 shares of common stock, also subject to a vesting schedule, will be granted. It is expected that this development process will last between 24 and 36 months.

## 7. SUBSEQUENT EVENTS

On October 11, 12 and 14<sup>th</sup>, 2011, the Company issued an aggregate of 145,455 units consisting of 145,455 shares of the Company's common stock and warrants, having a term of three years and an exercise price of \$0.60 per share, to purchase 43,636 shares of the Company's common stock. The aggregate gross proceeds from this private placement transaction were \$80,000.

On October 17, 2011, the Company issued 50,000 shares of its common stock to a service provider in consideration of services rendered to the Company.

Additionally on October 18, 2011, 11,136 units consisting of 11,136 shares of our common stock and warrants, having a term of three years and an exercise price of \$0.60 per share, to purchase 3,341 shares of our common stock, were issued in satisfaction of accounts payable totaling \$6,124.80.

On October 22, 2011, the Company entered into two definitive agreements with OOO CardioNova, a wholly-owned subsidiary of Maxwell Biotech Group, a Russian biotech fund, covering the Company's 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") will become an equity investor in the Company in exchange for the funding of Phase 1 and 2 human clinical trials conducted by a Clinical Research Organization ("CRO") located in Russia. Terms of the Agreement specify that a Joint Steering Committee be established between both entities to determine final clinical protocols and research budget, which is expected to total approximately \$3.8 million. Upon acceptance of the development plan, common stock equal to 10% of the research budget will be issued to CardioNova at a 20-day weighted average prior to the signature of the initial term sheet, or \$0.97 per share.

Additional common stock issuances of 20%, 40% and 30% of the approved budget shall be issued upon the approval by the Joint Steering Committee of the Phase 1 protocol, 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.

If CardioNova successfully develops and commercializes AHRO-001 in the Territory, the Company 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, OOO CardioNova will purchase up to 275,258 shares of the Company's common stock for a cash purchase price of \$0.97 per share. This transaction will take place in two installments. The first installment of 154,639 shares will occur concurrently with the first common stock issuance as specified in the Licensing Agreement, which will occur after November 15, 2011. The 2<sup>nd</sup> installment will occur upon delivery of final clinical product to be used in the Phase 1 and 2 clinical trials.

## **Item 2. 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 three and nine months ended September 30, 2011 and 2010. The discussion and analysis that follows should be read together with the condensed consolidated financial statements and the notes to the financial statements included elsewhere in this report. 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 of our annual report on Form 10-K captioned “Risk Factors.”*

### **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 we incorporated a separate company, Z&Z Medical Holdings Inc. in Delaware (“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 between us, Z&Z Delaware and Z&Z Merger Corporation, our wholly-owned subsidiary and on May 13, 2010, Z&Z Delaware merged into Z&Z Merger Corporation and became our operating subsidiary. Concurrent with the merger, Z&Z Delaware changed its name to AtheroNova Operations Inc. (“AtheroNova Operations”) and we changed our name to AtheroNova Inc. The business of AtheroNova Operations, pharmaceuticals and pharmaceutical intellectual property, became our business upon consummation of the merger. Concurrent with the closing of the merger we consummated a capital raise transaction, in which we sold to investors \$1,500,000 in 2.5% Senior Secured Convertible Notes and Common Stock Purchase Warrants to purchase 1,908,798 shares of our common stock (see Note 3 to the accompanying financial statements).

We have developed intellectual property, covered by our pending patent applications, which uses certain pharmacological compounds uniquely 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 delipidization, 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, corporate infrastructure costs and research costs. We expect that our operating expenses will increase as we finalize clinical testing and 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.

During the 3 months ended September 30, 2011, we signed a term sheet with Maxwell Biotech Group (“Maxwell”) under which the Phase 1 and 2 human clinical trials of AHRO-001 will be conducted and funded by Maxwell for up to \$3.8 million dollars in exchange for our common stock priced at the lower of \$0.97 per share or the 20 day average prior to each achievement milestone. Achievement milestones shall occur upon the following events: a) acceptance by both parties on a finalized development budget; b) acceptance by both parties on a finalized Phase 1 study protocol; c) announcement of results of Phase 1 study, and; d) announcement of the results of Phase 2 study. A Joint Steering Committee, composed of personnel from both entities shall be established to oversee the development and approval of the finalized budgets and clinical trial protocols.

Concurrent with the establishment of the study budget and Joint Steering Committee, Maxwell shall purchase common stock equivalent to the expected cost of AHRO-001 and placebo clinical trial materials expected to be used to conduct the clinical trials. This purchase, to be completed in 2 phases, shall be for a total of \$267,000 at a price of \$0.97 per share. The first purchase will be consummated upon signing of the definitive Licensing and Securities Purchase Agreement and the second purchase will be consummated upon delivery of the clinical trial materials to Maxwell or its designated facilities.

Additionally, Maxwell will receive an exclusive marketing license for Russia and various Russian influenced countries. If approval is received in this territory for commercial distribution, as part of the marketing license, Maxwell will pay an escalating royalty based on net annual sales volume in the territory. Such royalties shall continue throughout the term of all patents received in the territories.

We have negotiated and executed the Stock Purchase Agreement and Licensing Agreement. Additionally, a Manufacturing Agreement and Pharmacovigilance Agreement are called for and will need to be negotiated once clinical trials prove dose and efficacy of the compounds under development.

## Results of Operations

### Three-month Period ended September 30, 2011 vs. 2010

|   | <u>Quarters ended September 30,</u> |                     | <u>Increase<br/>(decrease)</u> |
|---|-------------------------------------|---------------------|--------------------------------|
|   | <u>2011</u>                         | <u>2010</u>         |                                |
| <b>Costs and expenses:</b>                                    |                                     |                     |                                |
| Research and development:                                     |                                     |                     |                                |
| Share-based compensation                                      | \$ --                               | \$ --               | \$ --                          |
| Other research and development expenses                       | 88,270                              | --                  | 88,270                         |
| <b>Total research and development expenses</b>                | <b>88,270</b>                       | <b>--</b>           | <b>88,270</b>                  |
| General and administrative:                                   |                                     |                     |                                |
| Share-based compensation                                      | 529,518                             | 113,409             | 416,109                        |
| Other general and administrative expenses                     | 267,560                             | 480,619             | (213,059)                      |
| <b>Total general and administrative expenses</b>              | <b>797,078</b>                      | <b>594,028</b>      | <b>203,050</b>                 |
| Impairment charge-intellectual property:                      |                                     |                     |                                |
| Impairment charge   | --                                  | 572,868             | (572,868)                      |
| <b>Total impairment charge-intellectual property expenses</b> | <b>--</b>                           | <b>572,868</b>      | <b>(572,868)</b>               |
| Interest expense  | 401,446                             | 196,810             | 204,636                        |
| Gain on extinguishment of debt                                | (811,393)                           | --                  | (811,393)                      |
| Change in fair value of derivative liabilities                | 3,469,451                           | 412,361             | 3,057,090                      |
| Other expense   | (36)                                | (676)               | 640                            |
| <b>Total other expense</b>                                    | <b>3,059,468</b>                    | <b>608,495</b>      | <b>2,450,973</b>               |
| <b>Net loss</b>   | <b>\$ 3,944,816</b>                 | <b>\$ 1,775,391</b> | <b>\$ 2,169,425</b>            |

During the three month periods ended September 30, 2011 and 2010, 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 quarters ended September 30, 2011 and 2010, research and development expenses increased to \$88,270 from \$0. This increase is primarily due to the costs associated with patent and intellectual property work and clinical progress payments in the current period with no comparable expenses in 2010.

General and administrative costs increased to \$797,078 in the third quarter of 2011 compared to \$594,028 for the quarter ended September 30, 2010, or an increase of \$203,050. The increase in costs in the current year compared to the same period in 2010 was due to the current year's costs for stock-based compensation in connection with stock purchases and warrants by employees and consultants to the company in the current financing round at values that were less than the then current market price of the common stock. This was partially offset by decreases in legal and consulting services performed in the prior year in conjunction with the financial valuation models on derivative liabilities as well documents associated with changes in management and the Board of Directors.

For the three months ended September 30, 2011, intellectual property impairment charge decreased to \$0 from \$572,868 in the three months ended September 30, 2010. This decrease is due to the prior year's expense recognized following management's evaluation of likelihood of realization of the assets as well as the appropriateness of recording such cost as intangible assets.

For the quarter ended September 30, 2011 interest expense was \$401,446 compared to \$196,810 for the same period in the prior year. This increase is due to interest expense and discount amortization incurred on the 2.5% Senior Secured Convertible Notes (the "Original Notes") as well as amortization of debt discount of \$331,856 on the portion of the convertible notes converted to common stock during the quarter.

For the three months ended September 30, 2011, gain on extinguishment of debt increased to \$811,393 from \$0 in the three months ended September 30, 2010. This increase is due to the valuation of the convertible notes immediately prior to conversion of \$446,600 of note principal during July 2011.

Change in fair value of derivative liabilities resulted in expense of \$3,469,451 for the three months ended September 30, 2011. Change in fair value of derivative liabilities resulted in expense of \$412,361 for the 3 months ended September 30, 2010. This change in fair value results from revaluing our derivative liabilities associated with the convertible notes and warrants issued and outstanding at the end of each period.

Net loss for the quarter ended September 30, 2011 was \$3,944,816 compared to a net loss of \$1,775,391 for the quarter ended September 30, 2010 due to continued operations in advancing the scientific and regulatory work of AHRO-001 as well as the revaluing of derivative liabilities, partially offset by lower impairment charges due to the prior year's evaluation and subsequent write down of intellectual property intangible assets.

Nine-month Period ended September 30, 2011 vs. 2010

|   | Nine months ended September 30, |                     | Increase<br>(decrease) |
|---|---------------------------------|---------------------|------------------------|
|   | 2011                            | 2010                |                        |
| <b>Costs and expenses:</b>                                    |                                 |                     |                        |
| Research and development:                                     |                                 |                     |                        |
| Share-based compensation                                      | \$ --                           | \$ --               | \$ --                  |
| Other research and development expenses                       | 271,645                         | 110,450             | 161,195                |
| <b>Total research and development expenses</b>                | <b>271,645</b>                  | <b>110,450</b>      | <b>161,195</b>         |
| General and administrative:                                   |                                 |                     |                        |
| Share-based compensation                                      | 827,224                         | 473,628             | 353,596                |
| Other general and administrative expenses                     | 744,110                         | 514,287             | 229,823                |
| <b>Total general and administrative expenses</b>              | <b>1,571,334</b>                | <b>987,915</b>      | <b>583,419</b>         |
| Impairment charge-intellectual property:                      |                                 |                     |                        |
| Impairment charge   | --                              | 572,868             | (572,868)              |
| <b>Total impairment charge-intellectual property expenses</b> | <b>--</b>                       | <b>572,868</b>      | <b>(572,868)</b>       |
| Interest expense  | 594,922                         | 233,060             | 361,862                |
| Gain on extinguishment of debt                                | (811,393)                       | --                  | (811,393)              |
| Change in fair value of derivative liabilities                | (3,934,420)                     | 412,361             | (4,346,781)            |
| Merger related expenses                                       | --                              | 323,294             | (323,294)              |
| Private placement costs                                       | --                              | 2,042,348           | (2,042,348)            |
| Other (income) expense  | 4,675                           | 48,467              | (43,792)               |
| <b>Total other (income) expense</b>                           | <b>(4,146,216)</b>              | <b>3,059,530</b>    | <b>(7,205,746)</b>     |
| <b>Net (income) loss</b>                                      | <b>\$ (2,303,237)</b>           | <b>\$ 4,730,763</b> | <b>\$ (7,034,000)</b>  |

During the nine month periods ended September 30, 2011 and 2010, 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 nine months ended September 30, 2011, research and development expenses increased to \$271,645 from \$110,450 for the same period in 2010. This increase is primarily the result of our 2<sup>nd</sup> pre-clinical trials currently in process as well as expenses for patent and intellectual property work during the current year with only final report expenses in the prior year.

General and administrative costs increased to \$1,571,334 for the first nine months of 2011 compared to \$987,915 for the first nine months of 2010, or an increase of \$583,419. The increase in costs incurred in 2011 is due to the costs associated with our corporate offices, payroll expenses as well as the cost of stock based compensation expense for our officers and directors, partially offset by reduced legal expenses for the merger transaction that was completed and recorded in May 2010.

For the nine months ended September 30, 2011, intellectual property impairment charge decreased to \$0 from \$572,868 in the nine months ended September 30, 2010. This decrease is due to the prior year's expense recognized following management's evaluation of likelihood of realization of the assets as well as the appropriateness of recording such cost as intangible assets.

For the period ended September 30, 2011 interest expense was \$594,922 compared to \$233,060 in the same period in 2010. This change is due to interest expense and increased discount amortization of \$242,518 on the portion of the convertible notes converted in the current year when compared to the portion of the convertible notes converted in the prior year.

For the nine months ended September 30, 2011, gain on extinguishment of debt increased to \$811,393 from \$0 in the nine months ended September 30, 2010. This increase is due to the valuation of the convertible notes immediately prior to conversion of \$446,600 of note principal during July 2011.

Change in fair value of derivative liabilities resulted in income of \$3,934,420 for the nine months ended September 30, 2011. The fair value measurement for the nine months ended September 30, 2010 resulted in an expense of \$412,361. This change in fair value of \$4,346,781 results from revaluing our derivative liabilities associated with the remaining Original Notes and the Warrants issued in the prior year.

Merger related expenses decreased from \$323,294 in the nine months ended September 30, 2010 to \$0 in the nine-month period of the current year due to the one-time nature of the costs incurred to complete the merger, including legal and settlement costs.

Private placement costs were \$0 in the period ending September 30, 2011 compared to \$2,042,348 in the period ending September 30, 2010 due to the fair value recorded for the Original Notes and the Warrants issued in excess of the face value of the Original Notes. There are no such costs for the corresponding nine months of the current year as the revaluation analysis is recognized under the Change in fair value of derivative liabilities.

Net income for the nine months ended September 30, 2011 was \$2,303,237 compared to a net loss of \$4,730,763 for the nine months ended September 30, 2010 due to the change recorded from re-valuing our derivative liabilities which is only partially offset by payroll and stock based compensation for employees, officers and directors retained by us as well as the costs associated with the ongoing costs of the 2<sup>nd</sup> pre-clinical trials. The net loss in the nine months ended September 30, 2010 included the final costs of the proof of concept study as well as legal costs associated with the negotiation and review of merger documents and private placement costs incurred with the valuation of derivative liabilities.

### **Liquidity and Capital Resources**

From inception to September 30, 2011, we incurred a deficit during the development stage of \$13,539,560 primarily as a result of our losses from operations and the non-cash costs relating to the accounting of debt, derivative and warrant issuances. 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 nine months ended September 30, 2011, we had a net increase in cash and cash equivalents of \$508,981. This increase resulted largely from cash provided by stock subscription financing activities of \$1,385,131, partially offset by net cash used in operating activities of \$875,113. Total liquid resources as of September 30, 2011 were \$686,783 compared to \$177,802 at December 31, 2010.

As of September 30, 2011, excluding our derivative liability of \$8,952,110, we had working capital of \$378,618 compared to working capital of \$11,580 at December 31, 2010, when excluding our derivative liability of \$13,697,823 as of that date.

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 September 30, 2011, 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 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.

We are concluding an offering to accredited investors of units -consisting of one share of the Company's common stock and a warrant to purchase 0.3 of a share of the Company's common stock, at a per unit price of \$0.55, to raise funds necessary for general corporate and research costs. During the period ended September 30, 2011, we have raised \$1,397,631 in gross proceeds from the sale of 2,541,148 units to accredited investors, with an additional \$80,000 raised after September 30, 2011. There can be no assurances that sufficient subsequent funding, if any at all, will be raised by these or future discussions or the cost of such investments will be reasonable. Furthermore, we will need additional financing thereafter to complete development and commercialization of our products. There can be no assurances that we can successfully complete development and commercialization of our products.

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

We have reported a net loss of \$3,944,816 in the three months ended September 30, 2011, offset by non-cash losses on valuation of derivative liabilities of \$3,469,451 and non-cash gains from extinguishment of debt of \$811,393, compared to a net loss of \$1,775,391 for the three months ended September 30, 2010, which included non-cash expenses of \$412,361 for valuation of derivative liabilities and \$572,868 for impairment charges on intellectual property. We have reported net income of \$2,303,237 in the nine months ended September 30, 2011, offset by non-cash gains on valuation of derivative liabilities of \$3,934,420 and extinguishment of debt of \$811,393, compared to a net loss of \$4,730,763 for the nine months ended September 30, 2010, which included non-cash expenses of \$2,042,348 for valuation of initial debt placement, \$412,361 for valuation of derivative liabilities and \$572,868 for impairment charges on intellectual property. The net loss from the date of inception, December 13, 2006, to September 30, 2011 amounts to \$13,539,560. Management believes that we will continue to incur net losses through at least December 31, 2012.

#### **Amended and Restated 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) Original Notes for a cash purchase price of \$1,500,000, and (ii) 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.

On July 6, 2011, we entered into an Amendment and Exchange Agreement with each of W-Net, Europa and MKM pursuant to which the Purchasers agreed to exchange the Original Notes for Amended and Restated 2.5% Senior Secured Convertible Notes (the "Notes") and to amend the Securities Purchase Agreement to extend, for a period of 12 months, our right to cause the Purchasers to purchase their pro rata share of an aggregate of \$1,500,000 in additional Notes provided that we meet three operating benchmarks specified in the Securities Purchase Agreement (the "Specified Benchmarks"), in consideration of our agreement to extend, for a period of 12 months, each Purchaser's right to cause us to sell to such Purchaser its pro rata portion of an aggregate of \$1,500,000 in additional Notes if we fail to meet the Specified Benchmarks.

The Notes pay 2.5% interest per annum with a maturity of 4 years after the closing of the Capital Raise Transaction. No cash interest payments are required, except that accrued and unconverted interest shall be 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 Notes), the holder of each 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 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 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 Notes or such agreements, the 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.

Each Note is convertible at any time into common stock at \$0.29 per share. Original Note principal in the amount of \$98,049 has been converted in 2010 and \$446,600 has been converted in the nine months ended September 30, 2011. Immediate conversion of the remaining balance outstanding on the Notes of \$955,351 would result in the holders receiving 3,294,314 shares of our common stock. Interest expense of \$965 accrued on the converted portion of the Original Notes from the date of issuance through the respective conversion dates in 2010 and \$13,098 accrued on the converted portion in 2011 resulted in the issuance of 47,620 shares of our common stock in lieu of cash payment of the interest expense. Additional interest expense of \$14,001 was recorded using current valuations for interest expense paid with the issuance of common stock.

The 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 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 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 Note conversion price and the Warrant exercise price will be subject to specified adjustments for certain changes in the numbers of outstanding shares of our common stock, including conversions or exchanges of such. If additional shares of our capital stock are issued, except in specified exempt issuances, for consideration which is less than the then existing Note conversion or Warrant exercise price, then such conversion or exercise price will be reduced by anti-dilution adjustments. For the first \$400,000 of such “Dilutive Issuances,” the reduction will be made on a weighted average basis, taking into account the relative magnitudes of any Dilutive Issuance relative to the total number of outstanding shares. However, any further Dilutive Issuance would be subject to a more detrimental “full ratchet” adjustment that generally reduces the conversion or exercise price to equal the price in the Dilutive Issuance, regardless of the size of the Dilutive Issuance.

The 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 Note holders’ consent. They also limit and impose financial costs on our acquisition by any third party.

Under the Securities Purchase Agreement, as amended on July 6, 2011, if we meet three specified operating benchmarks during the first twenty-four months after the closing of the first Original Note purchase, an additional \$1,500,000 in Note purchases (without Warrants) can be requested by us from the Purchasers. The determination of whether we have met the benchmarks is solely at the discretion of the Purchasers. If the benchmarks are determined to have been achieved, then we can require the Purchasers to make the additional \$1,500,000 of Note purchases. If such benchmarks are not attained in the 24-month period, then the Purchasers, in their discretion, during the next two months may elect to purchase up to \$1,500,000 of Notes (without Warrants) having an initial conversion price which is 25% higher than the conversion price in the Notes.

## **Commitments**

### **Research and Development Projects**

At present we have commitments for two research and development projects for our second pre-clinical trials. The first agreement, with the University of California, has completed the laboratory segment of the project and should be in process of issuing the final analytic reports. Amendment #1 to the agreement, dated September 22, 2011, added serum analytic work on samples provided by Cedars-Sinai for an additional \$4,620, increasing the final amount due under the agreement to \$43,787.

The second commitment for research and development projects, with the Cedars-Sinai Medical Center, has also completed the laboratory segment of the project and completion of the data analysis and publishable manuscript are expected to be during the 4<sup>th</sup> quarter of 2011. Additional progress payments still due at various dates dependent upon the stages of completion of the project total \$137,583.

### **Summary of Contractual Commitments**

#### ***Employment Agreements***

Employment agreements with our Chief Executive Officer and Chief Financial Officer are incorporated by reference to Exhibits 10.1 and 10.2 to the Current Report on Form 8-K (File No. 000-52315) filed with the Securities and Exchange Commission (“SEC”) on September 3, 2010.

#### **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***

All 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.

### ***Stock-Based Compensation***

We periodically issues 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 the authoritative guidance provided by the Financial Accounting Standards Board whereas the value of the award is measured on the date of grant and recognized over the vesting period. We account for stock option and warrant grants issued and vesting to non-employees in accordance with the authoritative guidance of the Financial Accounting Standards Board whereas the value of the stock compensation is based upon 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 instruments is complete. Non-employee stock-based compensation charges generally are amortized over the vesting period on a straight-line basis. In certain circumstances where there are no future performance requirements by the non-employee, option grants are immediately vested and the total stock-based compensation charge is recorded in the period of the measurement date.

The fair value of our common stock option and warrant grant 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.

### ***Intangible Assets and Goodwill***

We account for intangible assets and goodwill in accordance with the authoritative guidance issued by the Financial Accounting Standards Board. Intangibles are valued at their fair market value and are amortized taking into account the character of the acquired intangible asset and the expected period of benefit.

### ***Recently Issued Accounting Standards***

In May 2011, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2011-4, which amends the Fair Value Measurements Topic of the Accounting Standards Codification (ASC) to help achieve common fair value measurement and disclosure requirements in U.S. GAAP and IFRS. ASU No. 2011-4 does not require additional fair value measurements and is not intended to establish valuation standards or affect valuation practices outside of financial reporting. The ASU is effective for interim and annual periods beginning after December 15, 2011. We will adopt the ASU as required. The ASU will affect our fair value disclosures, but will not affect our results of operations, financial condition or liquidity.

In June 2011, the FASB issued ASU No. 2011-5, which amends the Comprehensive Income Topic of the ASC. The ASU eliminates the option to present the components of other comprehensive income as part of the statement of changes in shareholders' equity, and instead requires consecutive presentation of the statement of net income and other comprehensive income either in a continuous statement of comprehensive income or in two separate but consecutive statements. ASU No. 2011-5 is effective for interim and annual periods beginning after

December 15, 2011. We will adopt the ASU as required. It will have no effect on our results of operations, financial condition or liquidity.

In September 2011, the FASB issued ASU 2011-08, "Testing Goodwill for Impairment", an update to existing guidance on the assessment of goodwill impairment. This update simplifies the assessment of goodwill for impairment by allowing companies to consider qualitative factors to determine whether it is more likely or not that the fair value of a reporting unit is less than its carrying amount before performing the two step impairment review process. It also amends the examples of events or circumstances that would be considered in a goodwill impairment evaluation. The amendments are effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011. Early adoption is permitted. The Company is currently evaluating the effects adoption of ASU 2011-08 may have on its goodwill impairment testing.

Other recent accounting pronouncements issued by the FASB (including its Emerging Issues Task Force), the AICPA, and the SEC did not or are not believed by management to have a material impact on our present or future consolidated financial statements.

### **Item 3. Quantitative and Qualitative Disclosure About Market Risk**

As a "smaller reporting company" as defined by Rule 229.10(f)(1), we are not required to provide the information required by this Item 3.

### **Item 4. Controls and Procedures**

#### **Evaluation of Disclosure Controls and Procedures**

As of September 30, 2011, we carried out an evaluation, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")). Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of that date to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and to ensure that information required to be disclosed by us in such reports is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Our disclosure controls or internal controls over financial reporting were designed to provide only reasonable assurance that such disclosure controls or internal control over financial reporting will prevent all errors or all instances of fraud, even as the same are improved to address any deficiencies. The design of any system of controls is based in part upon certain assumptions about the likelihood of future events, and there can be only reasonable, not absolute assurance that any design will succeed in achieving its stated goals under all potential future conditions. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs.

Because of the inherent limitation of a cost-effective control system, misstatements due to error or fraud may occur and not be detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls.

**Changes in Internal Control**

During the quarter ended September 30, 2011, there were no changes in internal controls over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting.

**Part II – Other Information**

None.

## Item 6. Exhibits

| <b>Exhibit No.</b> | <b>Description</b>  |
|--------------------|---|
| 10.1               | Stock Purchase Agreement dated October 22, 2011, between the Registrant and OOO CardioNova.   |
| 10.2               | License Agreement dated October 22, 2011, between the Registrant, AtheroNova Operations, Inc. and OOO CardioNova.                           |
| 31.1               | Certification of Principal Executive Officer pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as amended. |
| 31.2               | Certification of Principal Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as amended. |
| 32.1               | Certification of Principal Executive Officer pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002.    |
| 32.2               | Certification of Principal Financial Officer pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002.    |
| 101.INS**          | XBRL Instance.  |
| 101.SCH**          | XBRL Taxonomy Extension Schema.   |
| 101.CAL**          | XBRL Taxonomy Extension Calculation.  |
| 101.DEF**          | XBRL Taxonomy Extension Definition.   |
| 101.LAB**          | XBRL Taxonomy Extension Labels.   |
| 101.PRE**          | XBRL Taxonomy Extension Presentation.   |

\*\* XBRL information is furnished and not filed or a part of a registration statement or prospectus for purposes of sections 11 or 12 of the Securities Act of 1933, as amended, is deemed not filed for purposes of section 18 of the Securities Exchange Act of 1934, as amended, and otherwise is not subject to liability under these sections.

## SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

ATHERONOVA INC.

Date: November 10, 2011

By: /s/ Mark Selawski  
Mark Selawski  
Chief Financial Officer  
(Principal financial and accounting officer)

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO  
SECURITIES EXCHANGE ACT RULES 13a-14(a) AND 15d-14(a)  
AS ADOPTED PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Thomas W. Gardner, certify that:

1. I have reviewed this report on Form 10-Q of AtheroNova Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 10, 2011

/s/ Thomas W. Gardner  
Thomas W. Gardner,  
Chief Executive Officer and Chairman  
(Principal Executive Officer)

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO  
SECURITIES EXCHANGE ACT RULES 13a-14(a) AND 15d-14(a)  
AS ADOPTED PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Mark Selawski, certify that:

1. I have reviewed this report on Form 10-Q of AtheroNova Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 10, 2011

/s/ Mark Selawski  
Mark Selawski,  
Chief Financial Officer and Secretary  
(Principal Accounting Officer)

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of AtheroNova Inc. (the "Company") on Form 10-Q for the period ending September 30, 2011, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Thomas W. Gardner, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- (a) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (b) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 10, 2011

/s/Thomas W. Gardner

Thomas W. Gardner  
Chief Executive Officer and Chairman  
(Principal Executive Officer)

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of AtheroNova Inc. (the “Company”) on Form 10-Q for the period ending September 30, 2011, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Mark Selawski, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- (a) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (b) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 10, 2011

/s/ Mark Selawski

Mark Selawski  
Chief Financial Officer and Secretary  
(Principal Accounting Officer)