



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

March 24, 2014

Via E-mail

Mr. Mark Selawski
Chief Financial Officer
AtheroNova, Inc.
2301 Dupont Drive, Suite 525
Irvine, California 92612

**Re: AtheroNova, Inc.
Preliminary Proxy Statement on Schedule 14A
Filed on March 14, 2014
File No. 000-52315**

Dear Mr. Selawski:

We have completed our review of your filing. We remind you that our comments or changes to disclosure in response to our comments do not foreclose the Commission from taking any action with respect to the company or the filing and the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States. We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable rules require.

Sincerely,

/s/ Bryan J. Pitko for

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
Michael Lawhead, Esq.
Stradling Yocca Carlson & Rauth, P.C.