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

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of October 2012.

Commission File Number: **000-54771**

Acasti Pharma Inc.
(Translation of registrant's name into English)

545 PROMENADE DU CENTROPOLIS, SUITE 100
LAVAL QUEBEC H7T 0A3
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.
Form 20-F [ ] Form 40-F [x]

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ___

Note: Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ___

Note: Regulation S-T Rule 101(b)(7) only permits the submission in paper of a Form 6-K if submitted to furnish a report or other document that the registrant foreign private issuer must furnish and make public under the laws of the jurisdiction in which the registrant is incorporated, domiciled or legally organized (the registrant's "home country"), or under the rules of the home country exchange on which the registrant's securities are traded, as long as the report or other document is not a press release, is not required to be and has not been distributed to the registrant's security holders, and, if discussing a material event, has already been the subject of a Form 6-K submission or other Commission filing on EDGAR.

On October 17, 2012 the Registrant issued a press release, a copy of which is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

(c) Exhibit 99.1. Press release dated October 17, 2012

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.

Acasti Pharma Inc.
(Registrant)

Date: October 19, 2012

/s/ HENRI HARLAND
Henri Harland
CEO

Acasti Pharma Reports Its Second Quarter Results

LAVAL, Quebec, Oct. 17, 2012 (GLOBE NEWSWIRE) -- Acasti Pharma ("Acasti" or the "Corporation") (TSX.V.APO), a Neptune Technologies & Bioressources Inc. ("Neptune") subsidiary, reports the highlights of its financial results for the second quarter, ended August 31, 2012.

Financial Results Highlights – Three-month period

- During the three-month period ended August 31, 2012 Acasti generated revenues of $237,000 from sales of Onemia™, while Acasti did not generate revenues from sales during the corresponding period of 2011.
- Research and development expenses for the three-month period ended August 31, 2012, amounted to $761,000 compared to $904,000 for the corresponding period of 2011.
- Adjusted EBITDA for the three-month period ended August 31, 2012 was negative $1,037,000, compared to negative $1,254,000 obtained during the corresponding period of 2011.
- Net loss amounted to $1,752,000, or $0.02 per share for the three-month period ended August 31, 2012 compared to $1,724,000, or $0.03 per share, for the corresponding period of 2011.

Financial Results Highlights – Six-month period

- During the six-month period ended August 31, 2012 Acasti generated revenues of $251,000 from sales of Onemia™, while Acasti did not generate revenues from sales during the corresponding period of 2011.
- Research and development expenses for the six-month period ended August 31, 2012, amounted to $1,321,000 compared to $1,356,000 for the corresponding period of 2011.
- Adjusted EBITDA for the six-month period ended August 31, 2012 was negative $1,953,000, compared to negative $1,947,000 obtained during the corresponding period of 2011.
- Net loss amounted to $3,328,000, or $0.05 per share for the six-month period ended August 31, 2012 compared to $2,747,000, or $0.04 per share, for the corresponding period of 2011.

"This is Acasti's first quarter with tangible revenues from US sales of Onemia™ on the medical food market from distribution through a nation-wide sales network. While generating revenues from sales of Onemia™ is an important part of Acasti's business plan, the management's main focus remains CaPre®'s research & development program. Increasing revenues from Onemia™ over the next few years will alleviate the burden of CaPre®'s research & development expenses on the Corporation's cash flow. Acasti's current cash position is sufficient to conduct its two current phase II clinical trials, with more than $ 5M on hand," stated Xavier Harland, CFO. "Moreover, Neptune's recent financing may also provide additional backup liquidity for further needs," he added.

About Acasti Pharma Inc.

Acasti Pharma is developing a product portfolio of proprietary novel long-chain omega-3 phospholipids. Phospholipids are the major component of cell membranes and are essential for all vital cell processes. They are one of the principal constituents of High Density Lipoprotein (good cholesterol) and, as such, play an important role in modulating cholesterol efflux. Acasti Pharma's proprietary novel phospholipids carry and functionalize the polyunsaturated omega-3 fatty acids EPA and DHA, which have been shown to have substantial health benefits and which are stabilized by potent antioxidants. Acasti Pharma is focusing initially on treatments for chronic cardiovascular and cardiometabolic conditions within the over-the-counter, medical food and prescription drug markets.

About Neptune Technologies & Bioressources Inc. (Nasdaq:NEPT) – (TSX.V.NTB)

Neptune is an industry-recognized leader in the innovation, production and formulation of science-based and clinically proven novel phospholipid products for the nutraceutical and pharmaceutical markets. The Company focuses on growing consumer health markets including cardiovascular, inflammatory and neurological diseases driven by consumers taking a more proactive approach to managing health and preventing disease. The Company sponsors clinical trials aimed to demonstrate its product health benefits and to obtain regulatory approval for label health claims. Neptune is continuously expanding its intellectual property portfolio as well as clinical studies and regulatory approvals. Neptune's products are marketed and distributed in over 20 countries worldwide.

"Neither Nasdaq nor the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release."

Statements in this press release that are not statements of historical or current fact constitute "forward-looking statements" within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and Canadian securities laws. Such forward-looking statements involve known and unknown risks, uncertainties, and other unknown factors that could cause the actual results of the Company to be materially different from historical results or from any future results expressed or implied by such forward-looking statements. In addition to statements which explicitly describe such risks and uncertainties, readers are urged to consider statements labeled with the terms "believes," "belief," "expects," "intends," "anticipates," "will," or "plans" to be uncertain and forward-looking. The forward-looking statements contained herein are also subject generally to other risks and uncertainties that are described from time to time in the Company's reports filed with the Securities and Exchange Commission and the Canadian securities commissions.

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