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 March 2013.

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 March 19, 2013 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 March 19, 2013

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: March 19, 2013

/s/ HENRI HARLAND
Henri Harland
CEO

Acasti Pharma Presents Preliminary Data Moving Forward With Clinical Strategy

LAVAL, Quebec, March 19, 2013 (GLOBE NEWSWIRE) -- Acasti Pharma Inc. ("**Acasti**") (TSX.V:APO) (Nasdaq:ACST), a Neptune Technologies & Bioressources Inc. ("**Neptune**") subsidiary, announces encouraging preliminary clinical data of its "Randomized, Open-Label, Dose-Ranging, Multi-Center Trial to assess the Safety and efficacy of NKPL66 (CaPre®) in the treatment of mild-to-high hypertriglyceridemia" (Open-label). In the course of planning the strategy of its phase III clinical development with CaPre®, Acasti examined triglycerides data from its Open-label clinical trial.

Data from 157 patients who have completed four weeks of treatment with 0.5, 1, 2 or 4 grams of CaPre® per day were assessed and CaPre® achieved a clinically important and statistically significant triglyceride reduction of up to 23% ($p < 0.05$) as compared to standard of care, after only a 4-week treatment. Moreover, a noteworthy trend indicating a dose-response relationship versus standard of care as well as clinically and statistically significant effects of doubling the doses of CaPre® were observed.

It should also be noted that the study assesses the effectiveness of CaPre® in a real-life, routine - clinical setting since the standard of care may be any treatment the treating physicians considered as appropriate and included life-style modification as well as lipid modifying agents such as statins and fibrates, that most of the patients analysed (i.e. 86%) had baseline triglycerides between 200 and 500mg/dl (2.28 to 5.7 mmol/L) and that no serious adverse events were reported.

To date, the results of this preliminary analysis suggest that CaPre® is safe and effective for the treatment of patients with triglyceride levels ranging from 200 to 500 mg/dL. "We're pleased with the triglycerides responses in this difficult to treat population. We're looking forward to the near term completion of the study and the complete evaluation of our drug on the entire lipid profile of this patient population," stated Dr. Harlan Waksal, Executive Vice-President.

This information confirms previously reported data from a cohort of patients that completed an eight-week treatment with 2g CaPre® per day, showing a statistically significant 25% ($p<0.05$) reduction in triglycerides after eight weeks of treatment.

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.

"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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