Acasti Pharma Announces Pricing of $16.6 Million Underwritten Public Offering of Common Shares

Montréal, Québec, CANADA, October 4, 2018 — Acasti Pharma Inc. (NASDAQ: ACST – TSX-V: ACST), a biopharmaceutical innovator focused on the research, development and commercialization of its prescription drug candidate CaPre® (omega-3 phospholipid) for the treatment of severe hypertriglyceridemia, announced today the pricing of an underwritten public offering of 16,600,000 common shares in the United States at a price to the public of $1.00 per share. Acasti Pharma has granted the underwriters a 30-day option to purchase up to 2,490,000 additional common shares sold in the offering, to cover over-allotments, if any. All common shares in the offering are being offered by Acasti Pharma. The offering is expected to close on or about October 9, 2018, subject to the satisfaction of customary closing conditions, including approval of the Nasdaq Capital Market and the TSX Venture Exchange.

Oppenheimer & Co. Inc. is acting as the sole book-running manager for the proposed offering. Aegis Capital Corporation is acting as a co-manager in connection with the offering.

The gross proceeds to Acasti Pharma from this offering are expected to be approximately $16.6 million, before deducting underwriting discounts and commissions and other estimated offering expenses payable by Acasti Pharma. Acasti Pharma intends to use the net proceeds of the offering to fund its TRILOGY Phase 3 program, to advance partnering discussions around the world and for working capital and general corporate purposes.

On October 4, 2018, Acasti also priced a separate and concurrent public offering in Canada of C$24 million of common shares at a price to the public of C$1.28 under a Canadian prospectus filed with certain Canadian securities regulatory authorities in reliance on Regulation S under the Securities Act of 1933, as amended.

The securities in the U.S. offering described above are being offered by Acasti Pharma pursuant to a "shelf" registration statement on Form F-3 (File No. 333-223464) previously filed with and declared effective by the Securities and Exchange Commission ("SEC") on March 16, 2018. A preliminary prospectus supplement and an accompanying prospectus relating to the U.S. offering have been filed with the SEC and are available on the SEC's website located at http://www.sec.gov. A final prospectus supplement will be filed with the SEC. Electronic copies of the final prospectus supplement and the accompanying prospectus relating to the U.S. offering may be obtained from: Oppenheimer & Co. Inc., Attention: Syndicate Prospectus Department, 85 Broad St., 26th Floor, New York, NY 10004, by telephone at (212) 667-8055 or by email at EquityProspectus@opco.com.

Before investing in the U.S. offering, you should read in their entirety the prospectus supplement and the accompanying prospectus and the other documents that Acasti Pharma has filed with the SEC that are incorporated by reference in the prospectus supplement and the accompanying prospectus, which provide more information about Acasti Pharma and the U.S. offering.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy any securities described herein, nor shall there be any sale of these securities in any state or jurisdiction in which such

offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction. The U.S. offering will be made only by means of a prospectus that forms a part of the registration statement.

The securities described above in relation to the U.S. offering have not been and will not be qualified for distribution pursuant to a prospectus filed with the securities regulatory authorities in any of the provinces or territories of Canada and will not be offered or sold in Canada except on a private placement basis pursuant to an exemption from the prospectus requirements of applicable Canadian securities laws.

About CaPre (omega-3 phospholipid)

Acasti Pharma's prescription drug candidate, CaPre, is a highly purified omega-3 phospholipid concentrate derived from krill oil and is being developed to treat severe hypertriglyceridemia, a metabolic condition that contributes to increased risk of cardiovascular disease and pancreatitis. Its omega-3s, principally EPA and DHA, are either "free" or bound to phospholipids that allows for better absorption into the body. Acasti Pharma believes that EPA and DHA are more efficiently transported by phospholipids sourced from krill oil than the EPA and DHA contained in fish oil that are transported either by triglycerides (as in dietary supplements) or as ethyl esters in other prescription omega-3 drugs, which must then undergo additional digestion before they are ready for transport in the bloodstream. Acasti Pharma's CaPre Phase 3 program is currently underway.

About Acasti Pharma

Acasti Pharma is a biopharmaceutical innovator advancing a potentially best-in-class cardiovascular drug, CaPre® (omega-3 phospholipid), for the treatment of hypertriglyceridemia, a chronic condition affecting an estimated one third of the U.S. population. Since its founding in 2008, Acasti Pharma has focused on addressing a critical market need for an effective, safe and well-absorbing omega-3 therapeutic that can make a positive impact on the major blood lipids associated with cardiovascular disease risk. The company is developing CaPre in a Phase 3 clinical program in patients with severe hypertriglyceridemia, a market that includes 3 to 4 million patients in the U.S. The addressable market may expand significantly if omega-3s demonstrate long-term cardiovascular benefits in on-going outcomes studies (REDUCE-IT and STRENGTH). Acasti Pharma may need to conduct at least one additional clinical trial to support FDA approval of a supplemental New Drug Application to expand CaPre's indications to this segment. Acasti Pharma's strategy is to commercialize CaPre in the U.S. and the company is pursuing development and distribution partnerships to market CaPre in major countries around the world. For more information, visit www.acastipharma.com.

The contents found at Acasti Pharma's website address are not incorporated by reference into this press release and should not be considered part of this press release.

Forward Looking Statements

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. securities laws 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 Acasti Pharma 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. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this press release.

The forward-looking statements contained in this press release are expressly qualified in their entirety by this cautionary statement, the “Cautionary Note Regarding Forward-Looking Information” section contained in Acasti Pharma’s latest annual report on Form 20-F available on SEDAR at www.sedar.com, on EDGAR at www.sec.gov/edgar.shtml and on the investor section of Acasti Pharma’s website at www.acastipharma.com. All forward-looking statements in this press release are made as of the date of this press release. Acasti Pharma does not undertake to update any such forward-looking statements whether as a result of new information, future events or otherwise, except as required by law. Additional information about these assumptions and risks and uncertainties is contained in the Annual Report and in the Corporation’s most recent management’s discussion and analysis (MD&A), in each case under the heading “Risk Factors,” and in the preliminary prospectus supplement related to the proposed U.S. offering filed with the SEC on or about the date hereof (copies of which may be obtained at www.sec.gov).

Neither NASDAQ, 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.

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