

**PROSPECTUS SUPPLEMENT NO. 2
TO THE PROSPECTUS DATED DECEMBER 21, 2017
Acasti Pharma Inc.**

This Prospectus Supplement No. 2 updates, amends and supplements our Prospectus dated December 21, 2017.

This Prospectus Supplement No. 2 incorporates by reference into our Prospectus dated December 21, 2017 the information contained in the Report on Form 6-K (Film Number: 18607146) of Acasti Pharma Inc. filed with the Securities and Exchange Commission (the "Commission") on February 14, 2018.

This Prospectus Supplement No. 2 should be read in conjunction with the Prospectus. To the extent information in this Prospectus Supplement No. 2 differs from, updates or conflicts with information contained in the Prospectus, the information in this Prospectus Supplement No. 2 is the more current information.

Investing in our securities involves risks. You should review carefully the "Risk Factors" beginning on page 8 of the Prospectus dated December 21, 2017 for a discussion of certain risks that you should consider.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is February 15, 2018.

INCORPORATION BY REFERENCE

This prospectus incorporates by reference important business and financial information that we file with the Commission and that we are not including in or delivering with this prospectus. As the Commission allows, incorporated documents are considered part of this prospectus, and we can disclose important information to you by referring you to those documents. We incorporate by reference our report on Form 6-K (Film Number: 18607146), filed with the Commission on February 14, 2018.

Pursuant to Rule 412 under the Securities Act, any statement contained in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You may request a copy of the report incorporated by reference into this prospectus, at no cost, by writing to us at: 545 Promenade du Centropolis, Suite 100, Laval, Québec, Canada H7T 0A3, or by telephoning us at (450) 686-4555. We maintain a corporate website at <http://www.acastipharma.com>. Information contained on, or that can be accessed through, our website does not constitute a part of this prospectus supplement. The report incorporated by reference into this prospectus may also be found at www.sec.gov.

You should rely only on the information incorporated by reference or provided in this prospectus or any supplement. We have not authorized anyone else to provide you with different information. You should not assume that information in this prospectus or any supplement is accurate as of any date other than the date on the front of these documents.