

**PROSPECTUS SUPPLEMENT**  
**(To Prospectus Dated November 9, 2021)**



**ACASTI PHARMA INC.**

**Up to \$11,050,000**  
**Common Shares**

This prospectus supplement amends and supplements the information in our prospectus, dated November 21, 2021 (the "Prospectus"), filed pursuant to our registration statement on Form S-3 (File No. 333-239538) (the "Registration Statement"). This prospectus supplement should be read in conjunction with the Prospectus, and is qualified by reference thereto, except to the extent that the information herein amends or supersedes the information contained in the Prospectus. This prospectus supplement is not complete without, and may only be delivered or utilized in connection with, the Prospectus, and any future amendments or supplements thereto.

In accordance with the terms of the ATM Sales Agreement with B. Riley Securities, Inc., Oppenheimer & Co. Inc., and H.C. Wainwright & Co., LLC (collectively the "Agents"), dated June 29, 2020, we may offer and sell common shares from time to time through the Agents acting as sales agents.

We are filing this prospectus supplement to amend the Prospectus to update the amount of shares we are eligible to sell under our Registration Statement pursuant to General Instruction I.B.6 of Form S-3. On June 21, 2022, the date we filed our Annual Report on Form 10-K for the year ended March 31, 2022, our Registration Statement became subject to the offering limits set forth in General Instruction I.B.6 of Form S-3. Pursuant to General Instruction I.B.6, and in accordance with the terms of the ATM Sales Agreement, we may offer and sell common shares having an aggregate offering price of up to \$11,050,000 from time to time through the Agents. In the event that we may sell additional amounts under the ATM Sales Agreement in accordance with General Instruction I.B.6, we will file another prospectus supplement prior to making such additional sales.

Our common shares are listed on the Nasdaq Stock Market, or Nasdaq, under the symbol "ACST". As of June 22, 2022, the aggregate market value of our common stock held by non-affiliates, or the public float, pursuant to General Instruction I.B.6 of Form S-3 was \$33,182,893, which was calculated based on 30,166,267 shares of our common stock outstanding held by non-affiliates as of June 22, 2022 and at a price of \$1.10 per share, the last reported sale price for our common shares on April 22, 2022. As of the date hereof, we have not offered and sold any common shares pursuant to General Instruction I.B.6 of Form S-3 during the prior 12 calendar month period that ends on and includes the date hereof.

**Investing in our common shares involves risks. Before buying any common shares, you should read the discussion of material risks of investing in our common shares in "Risk Factors" beginning on page S-22 of the Prospectus, and in the risks discussed under similar headings in the documents incorporated by reference in this prospectus supplement and the Prospectus, as they may be amended, updated or modified periodically in our reports filed with the Securities and Exchange Commission.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement and the Prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

The date of this prospectus supplement is June 23, 2022.

