PROSPECTUS SUPPLEMENT

(To Prospectus dated September 22, 2022)



2,627,224 Shares of Common Stock

Under that certain prospectus, dated September 22, 2022 (the "Prospectus"), filed on September 23, 2023 pursuant to Rule 424(b)(3), as part of our registration statement on Form S-1 (File No. 333-267412) filed on September 14, 2022, under which Acurx Pharmaceuticals, Inc. (the "Company") registered for resale, from time to time, by the selling stockholders of 2,627,224 shares of the Company's common stock, par value \$0.001 per share (the "common stock"), underlying (i) the series A warrants (the "series A warrants") and the series B warrants (the "series B warrants" and, together with the series A warrants, the "warrants") issued by the Company pursuant to the securities purchase agreements, dated July 25, 2022, that was entered into by the Company and each of the selling stockholders (the "Original Investors") and (ii) the placement agent warrants issued by the Company pursuant to the co-placement agency agreement, dated July 25, 2022, that was entered into by the Company, A.G.P./Alliance Global Partners and Maxim Group LLC.

This prospectus supplement modifies, supersedes and supplements certain information contained or incorporated by reference in the Prospectus. This prospectus supplement should be read in conjunction with the Prospectus, which is to be delivered with this prospectus supplement. If there is any inconsistency between the information in the Prospectus and this prospectus supplement, you should rely on the information in this prospectus supplement. This prospectus supplement is not complete without, and may only be delivered or utilized in connection with, the Prospectus, including any future amendments or supplements to it. You should read the entire Prospectus and any amendments or supplements carefully before you make an investment decision.

Our common stock is listed on The Nasdaq Capital Market under the symbol "ACXP." The last reported sale price of our common stock on May 17, 2023 was \$3.14 per share.

We are an "emerging growth company" under applicable Securities and Exchange Commission rules and, as such, we are subject to reduced public company reporting requirements.

Investing in our common stock is highly speculative and involves a significant degree of risk. Please consider carefully the specific factors set forth under "Risk Factors" beginning on page 7 of the Prospectus and in our filings 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 is truthful or complete. Any representation to the contrary is a criminal offense.

WARRANT AMENDMENT TRANSACTION

As disclosed in the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 17, 2023 (the "Current Report"), the Company and one of the Original Investors (the "Participant") entered into separate warrant amendment agreement with the Company, dated as of May 16, 2023 (the "Warrant Amendment Agreement"). Pursuant to the Warrant Amendment Agreement, the Participant agreed with the Company to amend their respective warrants to extend the termination date of such warrants to May 18, 2029 (the "Warrant Transaction").

Other than the extension of the termination date for the above-described warrants, all other terms and provisions of such warrants remain unchanged. Since not all of the Original Investors participated in the Warrant Transaction, such non-participating Original Investors' warrants will continue to have their termination date as provided in their warrants, which will remain January 27, 2028 for the series A warrants and January 27, 2024 for the series B warrants.

This prospectus supplement is being filed to update the information in the Prospectus with the information summarized above and contained in the Current Report.

The date of this prospectus supplement is May 18, 2023.