

PROSPECTUS SUPPLEMENT
(To Prospectus Dated December 14, 2023)

Up to \$10,000,000 of Shares

CUMBERLAND PHARMACEUTICALS INC.

Common Stock

This prospectus supplement amends and supplements the information in the prospectus, dated December 14, 2023, filed as a part of our registration statement on Form S-3 (File No. 333-276052), as supplemented by our prospectus supplement dated March 20, 2024, or collectively, the Prior Prospectus. This prospectus supplement should be read in conjunction with the Prior Prospectus, and is qualified by reference thereto, except to the extent that the information herein amends or supersedes the information contained in the Prior Prospectus. This prospectus supplement is not complete without, and may only be delivered or utilized in connection with, the Prior Prospectus, and any future amendments or supplements thereto.

We filed the Prior Prospectus to register the offer and sale of our common stock from time to time pursuant to the terms of that certain Sales Agreement, dated March 20, 2024, by and between H.C. Wainwright & Co., LLC, or the Agent, and us.

We are subject to the offering limitations of General Instruction I.B.6 of Form S-3. As of the date of this prospectus supplement, the aggregate market value of our common stock held by non-affiliates pursuant to General Instruction I.B.6 of Form S-3 is \$46,618,873, which was calculated based on 8,730,126 shares of our outstanding common stock held by non-affiliates and a price of \$5.34 per share, the closing price of our common stock on February 6, 2025, which is the highest closing sale price of our common stock on the Nasdaq Global Market within the prior 60 days. During the 12 calendar months prior to, and including, the date of this prospectus supplement, we have sold 1,000,000 shares of common stock under the Sales Agreement for aggregate gross proceeds of \$5,468,800. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities in public primary offerings on Form S-3 with a value exceeding one-third of our public float (as defined by General Instruction I.B.6) in any 12-calendar month period so long as our public float remains below \$75.0 million.

We are filing this prospectus supplement to amend the Prior Prospectus to increase the maximum amount of shares that we are eligible to sell pursuant to the Sales Agreement under General Instruction I.B.6. As a result of these limitations, we may currently only offer and sell shares of our common stock having an aggregate offering price of up to \$5,800,000 pursuant to the Sales Agreement. Pursuant to this prospectus supplement, we are registering the offer and sale of up to \$10,000,000 of shares of our common stock (excluding amounts previously sold under the Sales Agreement). However, in the event that our public float increases or decreases, we may sell securities in public primary offerings on Form S-3 with a value up to one-third of our public float, in each case calculated pursuant to General Instruction I.B.6 and subject to the

terms of the Sales Agreement. In the event that our public float increases above \$75.0 million, we will no longer be subject to the limitations of General Instruction I.B.6 of Form S-3.

Our common stock is listed on the Nasdaq Global Select Market under the symbol “CPIX.” On February 13, 2025, the last reported sale price of our common stock on the Nasdaq Global Select Market was \$4.64 per share.

Investing in our common stock involves a high degree of risk. Before making an investment decision, please read the information under the heading “Risk Factors” beginning on page 2 of the Prior Prospectus and in the documents incorporated by reference into this prospectus supplement and the Prior Prospectus.

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 or the accompanying prospectus. Any representation to the contrary is a criminal offense.

H.C. Wainwright & Co.

The date of this prospectus supplement is February 14, 2025.