

**PROSPECTUS SUPPLEMENT**  
**(To prospectus dated January 5, 2024)**



**BioLineRx Ltd.**

**Up to \$4,870,000 of  
American Depositary Shares Representing Ordinary Shares**

We are filing this prospectus supplement to amend the prospectus, dated January 5, 2024, filed as a part of our registration statement on Form F-3 (File No. 333-276323), or the Registration Statement, as supplemented by our prospectus supplement, dated April 11, 2025, or the Prior Prospectus, to update the maximum amount of securities we are eligible to sell under our Registration Statement pursuant to General Instruction I.B.5 of Form F-3. This prospectus supplement amends and supplements the information in the Prior Prospectus relating to the offering, issuance and sale by us of our American Depositary Shares, or ADSs, representing our ordinary shares, par value NIS 0.10 per share, from time to time that may be issued and sold under the at-the-market offering agreement, dated September 3, 2021, or the Offering Agreement, by and between us and H.C. Wainwright & Co., LLC, or Wainwright, as sales agent. 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.

As a result of these limitations and the current public float of our ordinary shares, including ordinary shares represented by ADSs, and in accordance with the terms of the Sales Agreement, we may offer and sell ADSs having an aggregate offering price of up to \$4,870,000 from time to time through Wainwright, which does not include the ADSs having an aggregate sales price of approximately \$3.2 million that were sold pursuant to the Prior Prospectus to date.

Our ADSs are listed on the Nasdaq Capital Market, or Nasdaq, under the symbol "BLRX". On July 24, 2025, the closing price of our ADSs on the Nasdaq was \$4.51 per ADS. Our ordinary shares also trade on the Tel Aviv Stock Exchange, or TASE, under the symbol "BLRX". On July 24, 2025, the last reported sale price of our ordinary shares on the TASE was NIS 0.025 or \$0.0075 per share (based on the exchange rate reported by the Bank of Israel on the same day).

The aggregate market value of our outstanding voting and non-voting common equity held by non-affiliates as of the date of this prospectus supplement, based on the closing price of the ADSs on the Nasdaq on June 9, 2025, as calculated in accordance with General Instruction I.B.5. of Form F-3, was approximately \$24.2 million. Pursuant to General Instruction I.B.5 of Form F-3, in no event will we sell securities in a primary offering with a value exceeding more than one-third of our public float in any 12-month period so long as our public float remains below \$75,000,000. During the prior 12 calendar month period that ends on, and includes, the date of this prospectus supplement (excluding this offering), we sold securities with an aggregate market value of \$3,194,586 pursuant to General Instruction I.B.5 of Form F-3. In the event that we may sell additional amounts under the Sales Agreement, we will file another prospectus supplement prior to making such additional sales.

**Investing in our securities involves a high degree of risk. You should read this prospectus supplement and the accompanying prospectus as well as the information incorporated herein and therein by reference carefully before you make your investment decision. See "Risk Factors" beginning on page S-5 of the ATM Prospectus and on page S-1 of the accompanying prospectus, and the risk factors described in other documents incorporated by reference therein, to read about the factors you should consider before investing in our securities.**

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

**H.C. Wainwright & Co.**

**The date of this prospectus supplement is July 25, 2025**

---