SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16 OF
THE SECURITIES EXCHANGE ACT OF 1934

For the month of September 2026

Commission file number: 001-35223

BioLineRx Ltd.

(Translation of registrant's name into English)

2 HaMa'ayan Street
Modi'in 7177871, Israel
(Address of Principal Executive Offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F:

Form 20-F ☒ **Form 40-F ☐**

On September 10, 2026, the registrant issued the press release which is filed as Exhibit 1 to this Report on Form 6-K.

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BioLineRx Ltd.

By: /s/ Philip A. Serlin
Philip A. Serlin
Chief Executive Officer

Dated: September 10, 2026

Exhibit 1

For Immediate Release

BioLineRx and Hemispherian AS to Present Encouraging GLIX1 Preclinical Efficacy Data and its Phase 1/2a Trial Design at the 21st Meeting of the European Association of Neuro-Oncology (EANO 2026)

TEL AVIV, Israel, and OSLO, Norway, September 10, 2026 – BioLineRx Ltd. (NASDAQ/TASE: BLRX), a clinical-stage biopharmaceutical company pursuing life-changing therapies in oncology and rare diseases, and Hemispherian AS, a clinical-stage oncology company developing novel small molecule therapeutics, today announced that two abstracts featuring GLIX1 have been accepted for presentation, including one selected for oral presentation highlighting the preclinical efficacy of GLIX1 in orthotopic glioblastoma models, at the 21st Meeting of the European Association of Neuro-Oncology (EANO 2026), which will be held September 24-27 in Rome, Italy.

"We are very pleased to be presenting our pre-clinical data and clinical trial design at EANO, Europe's premier neuro-oncology conference," stated Philip Serlin, Chief Executive Officer of BioLineRx. "Notably, our preclinical data demonstrating the potent anti-tumor effect of GLIX1 in GBM across multiple in-vivo studies, including two orthotopic cell-derived xenograft GBM models as well as a temozolomide-resistant patient derived xenograft model, will be featured in a mini-oral presentation. Together with our e-poster highlighting the design of our first-in-human Phase 1/2a clinical trial, which is actively enrolling patients, these presentations showcase the breadth and momentum of the GLIX1 program."

Abstract Details:

Title: GLIX1, a TET2 activator targeting the DNA damage response: Potent anti-tumor activity across multiple orthotopic glioblastoma models

Presenter: Dr. Adam Robertson, Ph.D., Chief Scientific Officer, Hemispherian AS

Session type: Mini Oral Session

Session number/title: MO02-Microenvironment, preclinical models and treatment resistance

Presentation Date/time: Friday, September 25, 2026, 6:00-6:30pm CEST (12:00-12:30pm EDT)

Summary: GLIX1, an oral TET2 activator targeting the DNA damage response, showed high *in vitro* potency across cancer cell lines and increased TET2-dependent 5hmC generation in biochemical assays, *in vitro*, and *in vivo* xenograft models. In mice, GLIX1 achieved brain exposures at 68-85% of plasma levels, supporting CNS penetration. In GBM genomic 5hmC is markedly reduced versus healthy brain tissue, reflecting impaired TET2 activity. Together, these data provide a strong rationale for GLIX1 treatment of GBM, one of the most aggressive cancers where more effective treatments are desperately needed.

In two orthotopic GBM xenograft models (SNB19, slower-growing; U87-MG, aggressive), oral GLIX1 (75 mg/kg QD to 1000 mg/kg BID) produced dose-dependent tumor growth inhibition and survival benefit at all tested doses, with greater benefit at higher doses; TMZ served as positive control. Antitumor activity was observed at the lowest dose tested. These preclinical findings supported initiation of the first-in-human Phase 1/2a trial, which is currently enrolling patients (NCT07464925).

Title: Phase 1/2a study of GLIX1, an oral TET2 activator, for the treatment of recurrent or progressive high-grade glioma

Presenter: Ditte Primdahl, MD, Assistant Professor of Neurology, Northwestern Medicine

Session type: E-poster presentation (displayed electronically on a number of poster screens in the poster area throughout the conference)

Summary: This poster describes the ongoing Phase 1/2a study of GLIX1, an oral TET2 activator, in recurrent or progressive high-grade glioma. In cancer, DNA hypermethylation is common and TET2 activity is inhibited by oncometabolites, giving rise to increased DNA methylation in close genomic proximity. GLIX1 activates TET2 to drive DNA demethylation, generating abundant single-stranded DNA breaks that mature into lethal double-stranded breaks, exploiting GBM's characteristically low genomic 5-hydroxymethylcytosine levels. Preclinical data, including *in vivo* GBM models, showed anti-tumor activity, blood-brain-barrier penetration, and a favorable safety profile.

The open-label, multicenter, first-in-human trial uses a BOIN design to guide dose escalation across up to 5 dose levels in up to 30 patients with WHO grade 3/4 glioma (≤2 prior therapy lines). Primary endpoints are safety, tolerability, and MTD/RP2D; secondary endpoints include PK, antitumor response, 6-month PFS, and exploratory endpoints include pharmacodynamic markers (P21, TMEM71, 5hmC, 5mC, γH2AX). Four leading US academic institutions will enroll patients into the study. Preclinical and initial clinical data will be presented.

About Hemispherian
Hemispherian AS is a clinical-stage pharmaceutical company developing first-in-class small-molecule cancer therapies. Its lead program, GLIX1, is being advanced in partnership with BioLineRx for the treatment of glioblastoma and a broad range of solid tumors.

The company is headquartered in Oslo, Norway, and collaborates with leading academic and clinical institutions worldwide.

Learn more at www.hemispherian.com or on LinkedIn.

About BioLineRx
BioLineRx Ltd. (NASDAQ/TASE: BLRX) is a biopharmaceutical company pursuing life-changing therapies in oncology and rare diseases. The Company’s lead development asset is GLIX1, a first-in-class, oral, small molecule targeting DNA damage response in glioblastoma and other solid tumors, for which a Phase 1/2a clinical trial has been initiated in the first quarter of 2026. GLIX1 is being developed under a collaboration with Hemispherian AS.

The Company's first approved product, APHEXDA® (motixafortide), is indicated in the U.S. for stem cell mobilization for autologous transplantation in multiple myeloma, and is being commercialized by Ayrmid Ltd. (globally, except Asia) and Auspex Biosciences (in Asia). BioLineRx has retained the rights to develop motixafortide in solid tumors, including metastatic pancreatic cancer (PDAC), and has a Phase 2b PDAC trial currently ongoing under a collaboration with Columbia University.

Learn more about who we are, what we do, and how we do it at www.biolinerx.com, or on LinkedIn.

Forward Looking Statement

Various statements in this release concerning BioLineRx's future expectations constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements include words such as "anticipates," "believes," "could," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "projects," "should," "will," and "would," and describe opinions about future events. These include statements regarding management's expectations, beliefs and intentions regarding, among other things, the expectations with regard to BioLineRx's Phase 1/2a GLIX1 clinical trial and BioLineRx's business strategy. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of BioLineRx to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Factors that could cause BioLineRx's actual results to differ materially from those expressed or implied in such forward-looking statements include, but are not limited to: the clinical development, commercialization and market acceptance of GLIX1 and motixafortide including the degree and pace of market uptake of APHEXDA for the mobilization of hematopoietic stem cells for autologous transplantation in multiple myeloma patients; the initiation, timing, progress and results of BioLineRx's preclinical studies, clinical trials and other therapeutic candidate development efforts; BioLineRx's ability to advance GLIX1 and motixafortide into clinical trials or to successfully complete its preclinical studies or clinical trials; whether the clinical trial results for GLIX1 and motixafortide will be predictive of real-world results; BioLineRx's receipt of regulatory approvals for GLIX1 and motixafortide and the timing of other regulatory filings and approvals; whether access to GLIX1 and motixafortide is achieved in a commercially viable manner and whether GLIX1 and motixafortide receives adequate reimbursement from third-party payors; BioLineRx's ability to establish, manage, and maintain corporate collaborations, as well as the ability of BioLineRx's collaborators to execute on their development and commercialization plans; BioLineRx's ability to integrate new therapeutic candidates and new personnel, as well as new collaborations; the interpretation of the properties and characteristics of BioLineRx's therapeutic candidates and of the results obtained with its therapeutic candidates in preclinical studies or clinical trials; the implementation of BioLineRx's business model and strategic plans for its business and therapeutic candidates; the scope of protection that BioLineRx's is able to establish and maintain for intellectual property rights covering its therapeutic candidates and its ability to operate its business without infringing the intellectual property rights of others; estimates of BioLineRx's expenses, future revenues, capital requirements and its need for and ability to access sufficient additional financing; risks related to changes in healthcare laws, rules and regulations in the United States or elsewhere; competitive companies, technologies and BioLineRx's industry; BioLineRx's ability to maintain the listing of its ADSs on Nasdaq; statements as to the impact of the political and security situation in Israel on BioLineRx's business which may exacerbate the magnitude of the factors discussed above. These and other factors are more fully discussed in the "Risk Factors" section of BioLineRx's most recent annual report on Form 20-F filed with the Securities and Exchange Commission on March 23, 2026. In addition, any forward-looking statements represent BioLineRx's views only as of the date of this release and should not be relied upon as representing its views as of any subsequent date. BioLineRx does not assume any obligation to update any forward-looking statements unless required by law.

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