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 January 2023

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 January 4, 2023, the registrant issued the press release which is filed as Exhibit 1 to this Report on Form 6-K.

The first, fourth and fifth paragraphs of the press release attached to this Form 6-K are hereby incorporated by reference into all effective registration statements filed by the registrant under the Securities Act of 1933.

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: January 4, 2023

Exhibit 1

For Immediate Release

BioLineRx Appoints Tami Rachmilewitz, M.D., as Chief Medical Officer

- Experienced Drug Developer Brings Over 15 Years of Clinical Development Industry Knowledge across Multiple Therapeutic Areas and Modalities -

TEL AVIV, Israel, January 4, 2023 – (PRNewswire) – BioLineRx Ltd. (NASDAQ/TASE: BLRX), a pre-commercial-stage biopharmaceutical company focused on oncology, today announced that it has appointed Tami Rachmilewitz, M.D., as Chief Medical Officer. Dr. Rachmilewitz will report to the CEO and lead the Company's clinical and medical functions. Her appointment is effective today, January 4, 2023.

"Tami has tremendous experience across a range of therapeutic areas and drug development modalities," said Philip Serlin, Chief Executive Officer of BioLineRx. "Her complementary expertise will be invaluable as we prepare for the anticipated launch of APHEXDA® (motixafortide) in the U.S., expand motixafortide's clinical development into additional therapeutic areas, assess our next clinical development steps for AGI-134, and add new assets to our development pipeline. Her proven leadership, extensive global clinical trial experience, and broad clinical development background will strengthen our mission to bring important new medicines to patients."

"I am very excited to be joining a dedicated team focused on bringing best-in-class therapeutics to patients with cancers and to other diseases with significant unmet need," said Tami Rachmilewitz, M.D., Chief Medical Officer at BioLineRx. "I look forward to supporting our clinical and medical teams and working with my fellow leaders at BioLineRx to realize the broad potential of our programs."

Dr. Rachmilewitz brings over 15 years of clinical development industry experience to the Company, including overseeing clinical development programs in oncology, immunology, and neurodegeneration. Previously, she was Senior Vice President of Clinical Development at VBL Therapeutics, where she led all aspects of the company's immuno-oncology clinical trial programs and oversaw its clinical operations and medical affairs teams. Her prior experience also includes clinical development leadership positions at NeuroDerm Ltd., Teva Pharmaceutical Industries Ltd., and Novartis. During her career, Dr. Rachmilewitz has led early to late phase clinical development programs, including large multinational pivotal trials.

Dr. Rachmilewitz received her Bachelor of Medical Sciences degree from The Hebrew University of Jerusalem, and her Doctor of Medicine degree from the Hadassah Medical School at the Hebrew University of Jerusalem, where she also performed her internship and residency in psychiatry.

About BioLineRx

BioLineRx Ltd. (NASDAQ/TASE: BLRX) is a pre-commercial-stage biopharmaceutical company focused on oncology. The Company's lead development program, motixafortide, a novel selective inhibitor of the CXCR4 chemokine receptor, may support diverse therapeutic approaches in oncology and other diseases. APHEXDA® (motixafortide) was successfully evaluated in a Phase 3 study in stem cell mobilization for autologous transplantation in multiple myeloma patients, has reported positive results from a pre-planned pharmacoeconomic study in the U.S., and has had its NDA submission accepted by the FDA with a PDUFA date of September 9, 2023. Motixafortide was also successfully evaluated in a Phase 2a study for the treatment of pancreatic cancer (PDAC) in combination with KEYTRUDA® and chemotherapy and is currently being studied in combination with LIBTAYO® and chemotherapy as a first-line PDAC therapy. A randomized phase 2b study with 200 patients in combination with an anti-PD1 and chemotherapy as a first-line PDAC therapy will initiate in 2023. BioLineRx is also developing a second oncology program, AGI-134, an immunotherapy treatment for multiple solid tumors that is currently being investigated in a Phase 1/2a study. For additional information on BioLineRx, please visit the Company's website at www.biolinerx.com, where you can review the Company's SEC filings, press releases, announcements, and events.

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 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 initiation, timing, progress and results of BioLineRx's preclinical studies, clinical trials and other therapeutic candidate development efforts; BioLineRx's ability to advance its therapeutic candidates into clinical trials or to successfully complete its preclinical studies or clinical trials; BioLineRx's receipt of regulatory approvals for its therapeutic candidates, and the timing of other regulatory filings and approvals; the clinical development, commercialization and market acceptance of BioLineRx's therapeutic candidates; BioLineRx's ability to establish and maintain corporate collaborations; BioLineRx's ability to integrate new therapeutic candidates and new personnel; 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 BioLineRx 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 needs 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; statements as to the impact of the political and security situation in Israel on BioLineRx's business; and the impact of the COVID-19 pandemic and the Russian invasion of Ukraine, 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 16, 2022. 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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