
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 April 2024

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 April 17, 2024, 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: April 17, 2024



BioLineRx Announces Poster Presentation on Apheresis Center Efficiency and CXCR4 Antagonists including APHEXDA® (motixafortide) in Patients with Multiple Myeloma at the ASFA 2024 Annual Meeting

TEL AVIV, Israel, April 17, 2024— BioLineRx Ltd. (NASDAQ/TASE: BLRX), a commercial stage biopharmaceutical company pursuing life-changing therapies in oncology and rare diseases, today announced a poster presentation on apheresis center efficiency and CXCR4 antagonists including APHEXDA (motixafortide) in patients with multiple myeloma. The poster will be presented at the American Society for Apheresis (ASFA) 2024 Annual Meeting, taking place April 17-19, 2024, in Las Vegas, Nevada.

Autologous stem cell transplantation (ASCT) is part of the standard of care treatment paradigm for multiple myeloma and prolongs survival for patients with this cancer type.¹ Historically, depending on induction regimens and mobilization strategies, approximately 50% to 75% of patients required more than one apheresis session to collect a target number of cells.^{2,3}

The model in the poster at ASFA analyzed the number of apheresis days needed to collect ≥ 6 million CD34+ cells/kg using different mobilization regimens based on product-specific Phase 3 studies. A direct comparison was used between daily filgrastim alone and in combination with APHEXDA based on the Phase 3 GENESIS trial that supported the U.S. Food and Drug Administration (FDA) approval of APHEXDA. In the absence of head-to-head Phase 3 studies, an indirect comparison was made between daily filgrastim, plerixafor in combination with filgrastim, and APHEXDA in combination with filgrastim. The calculations were based on data from the MOZOBIL® (plerixafor) US Prescribing Information and local laboratory assessments in the GENESIS trial.⁴

“Variability in the time to mobilize sufficient stem cells for ASCT is a significant operational challenge for apheresis centers that can cause suboptimal experiences for patients, as well as delays in care and cost impact,” said Edmund K. Waller, MD, PhD, FACP, Department of Hematology and Medical Oncology, Winship Cancer Institute, Emory University. “Research of this type supports clinical and institutional decision making and we look forward to presenting the model at the poster session at ASFA.”

Poster Presentation at the ASFA 2024 Annual Meeting
The Resorts World, Las Vegas, NV

Poster Session Details

Poster: Number P-28. See abstract in [Journal of Clinical Apheresis](#).

Title: Enhancing Apheresis Center Efficiency with CXCR4 Antagonists: Evidence from the Phase 3 Trials

Authors: Edmund K. Waller, MD, PhD, FACP Department of Hematology and Medical Oncology, Winship Cancer Institute, Emory University, Atlanta, GA

Date: April 17-19, 2024

About Multiple Myeloma

Multiple myeloma is an incurable blood cancer that affects some white blood cells called plasma cells, which are found in the bone marrow. When damaged, these plasma cells rapidly spread and replace normal cells in the bone marrow. According to the American Cancer Society, in 2024, it is estimated that more than 35,000 people will be diagnosed with multiple myeloma, and nearly 13,000 people will die from the disease in the U.S.⁵ While some people diagnosed with multiple myeloma initially have no symptoms, most patients are diagnosed due to symptoms that can include bone fracture or pain, low red blood cell counts, tiredness, high calcium levels, kidney problems, or infections.

About the GENESIS Trial

GENESIS (NCT 03246529) is a 2-part, Phase-3, randomized, double-blind, placebo-controlled, multicenter study evaluating the safety and efficacy of APHEXDA (motixafortide) plus filgrastim (G-CSF), compared to placebo plus filgrastim, for the mobilization of hematopoietic stem cells for autologous transplantation in multiple myeloma patients. Part 1 was a single center, lead-in, open-label study involving 12 patients treated with motixafortide plus filgrastim designed to ascertain the dose. Part 2 involved 122 patients who were randomized 2:1 in a double-blind, placebo-controlled, multicenter study. The primary objective of the study was to evaluate if one dose of motixafortide plus filgrastim is superior to placebo plus filgrastim in the ability to mobilize ≥ 6 million CD34+ cells in up to two apheresis sessions. A key secondary objective of the study was to evaluate if one dose of motixafortide plus filgrastim is superior to placebo plus filgrastim in the ability to mobilize ≥ 6 million CD34+ cells in one apheresis session. The study showed that APHEXDA combined with filgrastim (G-CSF) significantly enhanced the rate of mobilizing $\geq 6 \times 10^6$ CD34+ cells/kg in up to 2 apheresis days compared to placebo + filgrastim. Central laboratory assessments were used for the efficacy results. Local laboratory results were used for clinical treatment decisions.

About APHEXDA®

APHEXDA (motixafortide) is a CXCR4 antagonist with long receptor occupancy (greater than 72 hours) that, in combination with filgrastim (G-CSF), enables mobilization of hematopoietic stem cells to the peripheral blood for collection and subsequent autologous stem cell transplantation in patients with multiple myeloma.⁶

INDICATION AND IMPORTANT SAFETY INFORMATION

INDICATION

APHEXDA is indicated in combination with filgrastim (G-CSF) to mobilize hematopoietic stem cells to the peripheral blood for collection and subsequent autologous transplantation in patients with multiple myeloma.

IMPORTANT SAFETY INFORMATION

CONTRAINDICATIONS

APHEXDA is contraindicated in patients with a history of serious hypersensitivity reactions to motixafortide.

WARNINGS AND PRECAUTIONS

- **Anaphylactic Shock and Hypersensitivity Reactions:** Anaphylactic shock and hypersensitivity reactions have occurred. Premedicate all patients with a triple drug premedication regimen that includes an H1-antihistamine, an H2 blocker, and a leukotriene inhibitor approximately 30-60 minutes prior to each dose of APHEXDA. Administer APHEXDA in a setting where personnel and therapies are immediately available for treatment of anaphylaxis and other systemic reactions. Monitor patients for 1 hour following APHEXDA administration and manage reactions promptly. Patients receiving negative chronotropic drugs (e.g., beta-blockers) may be more at risk for hypotension in the event of a hypersensitivity reaction and these drugs, when appropriate, should be replaced with non-chronotropic drugs.
 - **Injection Site Reactions:** Injection site reactions (73%) including pain (53%), erythema (27%), and pruritus (24%) have occurred. Severe reactions occurred in 9% of patients. Premedicate with an analgesic premedication (e.g., acetaminophen) prior to each APHEXDA dose. Use analgesic medication and local treatments post-dose, as needed.
 - **Tumor Cell Mobilization in Patients with Leukemia:** For the purpose of hematopoietic stem cell (HSC) mobilization, APHEXDA may cause mobilization of leukemic cells and subsequent contamination of the apheresis product. Therefore, APHEXDA is not intended for HSC mobilization and harvest in patients with leukemia.
 - **Leukocytosis:** Administering APHEXDA in conjunction with filgrastim increases circulating leukocytes as well as HSC populations. Monitor white blood cell counts during APHEXDA use.
 - **Potential for Tumor Cell Mobilization:** When APHEXDA is used in combination with filgrastim for HSC mobilization, tumor cells may be released from the marrow and subsequently collected in the leukapheresis product. The effect of potential reinfusion of tumor cells has not been well-studied.
 - **Embryo-fetal Toxicity:** Based on its mechanism of action, APHEXDA can cause fetal harm. Advise pregnant women of the potential risk to the fetus. Verify pregnancy status in females of reproductive potential prior to initiating treatment with APHEXDA and advise use of effective contraception during treatment and for 8 days after the final dose.
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ADVERSE REACTIONS

The most common adverse reactions (incidence >20%) in patients treated with APHEXDA were injection site reactions [73%, including pain (53%), erythema (27%), pruritus (24%)]; pruritus (38%); flushing (33%); back pain (21%).

USE IN SPECIFIC POPULATIONS

Pregnancy: Please see the important information in Warnings and Precautions under Embryo-fetal Toxicity.

Lactation: There are no data on the presence of motixafortide in human milk, the effects on the breastfed child, or the effects on milk production. Advise females that breastfeeding is not recommended during treatment with APHEXDA and for 8 days after the final dose.

Pediatric Use: The safety and effectiveness of APHEXDA have not been established in pediatric patients.

Please see the accompanying full **Prescribing Information**.

About BioLineRx

BioLineRx Ltd. (NASDAQ/TASE: BLRX) is a commercial stage biopharmaceutical company pursuing life-changing therapies in oncology and rare diseases. The company's first approved product is APHEXDA® (motixafortide) with an indication in the U.S. for stem cell mobilization for autologous transplantation in multiple myeloma. BioLineRx is advancing a pipeline of investigational medicines for patients with sickle cell disease, pancreatic cancer, and other solid tumors. Headquartered in Israel, and with operations in the U.S., the company is driving innovative therapeutics with end-to-end expertise in development and commercialization, ensuring life-changing discoveries move beyond the bench to the bedside.

Learn more about who we are, what we do, and how we do it at www.biolinerx.com, or on [Twitter](#) and [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 potential benefits of APHEXDA, the execution of the launch of APHEXDA and the plans and objectives of management for future operations and expectations and commercial potential of motixafortide, as well as its potential investigational uses. 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; whether BioLineRx's collaboration partners will be able to execute on collaboration goals in a timely manner; whether the clinical trial results for APHEXDA will be predictive of real-world results; 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, including the degree and pace of market uptake of APHEXDA for the mobilization of hematopoietic stem cells for autologous transplantation in multiple myeloma patients; whether access to APHEXDA is achieved in a commercially viable manner and whether APHEXDA receives adequate reimbursement from third-party payors; BioLineRx's ability to establish, operationalize 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, including any unexpected costs or delays in the commercial launch of APHEXDA; 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; the impact of any resurgence of the COVID-19 pandemic, the Russian invasion of Ukraine, the declared war by Israel against Hamas and the military campaigns against Hamas and other terrorist organizations, 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 26, 2024. 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.

1. Kumar SK, et al. *Blood*. 2008;111(5):2516-2520.
2. Dhakal B, Zhang M, Burns L, et al. *Haematologica*. 2023;106(8):2257-2260.
3. Ahmed N, Li L, Rojas P, et al. *Bone Marrow Transplant*. 2021;56(6):1458-1461.
4. Data on file.
5. American Cancer Society. *Key Statistics About Multiple Myeloma*. Atlanta, Ga: American Cancer Society; 2024.
6. APHEXDA. Prescribing Information. BioLineRx Ltd; 2023.

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