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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

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**FORM S-8**  
(Post-Effective Amendment No. 1)  
**REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933**

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**BIOLINERX LTD.**

*(Exact Name of Registrant as Specified in its Charter)*

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**State of Israel**  
*(State or other jurisdiction of  
incorporation or organization)*

**Not Applicable**  
*(I.R.S. Employer Identification No.)*

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**BioLineRx Ltd.  
2 HaMa'ayan Street  
Modi'in 7177871, Israel  
(972) (8) 642-9100**  
*(Address of principal executive offices)*

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**BioLineRx Ltd. Amended and Restated 2003 Share Incentive Plan**  
*(Full title of the Plan)*

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**Vcorp Services, LLC  
25 Robert Pitt Drive, Suite 204  
Monsey, New York 10952**  
*(Name, Address, including zip code, and telephone number, including area code, of agent for service)*

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Copies of all correspondence to:

**Anna T. Pinedo, Esq.  
James R. Tanenbaum, Esq.  
Morrison & Foerster LLP  
250 West 55th Street  
New York, New York 10019  
Tel: (212) 468-8000**

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Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "large accelerated filer" and "accelerated filer" in Rule 12b-2 of the Exchange Act. (check one):

Large accelerated filer

☐

Accelerated filer

☒

Non-accelerated filer

☐

Smaller reporting company

☐

(Do not check if a smaller reporting company)

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## EXPLANATORY NOTE

BioLineRx Ltd. (the “Company”) previously filed a registration statement on Form S-8 (SEC File No. 333-208865) on January 5, 2016 (the “Registration Statement”) with the Securities and Exchange Commission (the “SEC”) to which this Post-Effective Amendment No. 1 relates in connection with the registration of 5,000,000 ordinary shares of the Company, par value NIS 0.10 per share (the “Ordinary Shares”), available for issuance pursuant to stock option awards under the Company’s Amended and Restated 2003 Share Incentive Plan.

Pursuant to General Instruction E to Form S-8, the contents of the Registration Statement are hereby incorporated by reference in their entirety, with the exception of Items 3 and 8 of Part II of such Registration Statement, each of which is amended and restated in its entirety herein. On January 7, 2016, the Company’s board of directors (the “Board”) approved the Company’s Amended and Restated 2003 Share Incentive Plan (the “Plan”), which is included as Exhibit 4.1 to this Post-Effective Amendment No. 1. The Plan, which did not require shareholder approval, allows the Company to grant restricted stock units and performance stock units to eligible grantees in addition to the stock option awards issuable under the replaced plan. The number of shares of the Company’s common stock reserved for issuance under the Plan, and the number of shares registered on Form S-8, has not changed. This Post-Effective Amendment No. 1 is being filed solely to reflect the amendments and restatements as set forth in the Plan.

## PART II

### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

#### Item 3. Incorporation of Documents by Reference.

The SEC allows us to incorporate by reference our publicly filed reports into this prospectus, which means that information included in those reports is considered part of this prospectus. Information that we file with the SEC after the date of this prospectus will automatically update and supersede the information contained in this prospectus. We incorporate by reference the following documents filed with the SEC and any future filings we will make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”):

- our Annual Report on Form 20-F filed with the SEC on March 23, 2017;
- our Report of Foreign Issuer on Form 6-K filed on March 27, 2017; and
- the description of our ordinary shares set forth in our Registration Statement on Form 20-F, filed with the SEC on July 1, 2011.

All documents filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this prospectus and prior to the filing of a post-effective amendment that indicates that all securities have been offered and sold or that deregisters all securities remaining unsold shall be deemed to be incorporated by reference in the registration statement and to be a part hereof from the date of filing of such documents (other than information that is furnished in such documents but deemed by the rules of the SEC not to have been filed). Any statement contained in a document incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

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We will furnish without charge to you, on written or oral request, a copy of any or all of the above documents, other than exhibits to such documents which are not specifically incorporated by reference therein. You should direct any requests for documents to:

BioLineRx Ltd.  
2 HaMa'ayan Street  
Modi'in 7177871, Israel  
Attention: Corporate Secretary  
Tel.: +972-8-642-9100  
e-mail: [info@BioLineRx.com](mailto:info@BioLineRx.com)

**Item 8. Exhibits.**

<b>Exhibit Number</b>	<b>Exhibit Description</b>	<b>Method of Filing</b>
3.1	Articles of Association of the Registrant, as amended.	Incorporated by reference to Exhibit 2.1 of the Registrant's Registration Statement on Form F-3 (No. 333-205700) filed on July 16, 2015.
3.2	Deposit Agreement dated as of July 21, 2011 among BioLineRx Ltd., The Bank of New York Mellon, as Depositary, and all Owners and Holders from time to time of American Depositary Shares issued thereunder.	Incorporated by reference to Exhibit 1 of the Registration Statement on Form F-6 (No. 333-175360) filed by the Bank of New York Mellon with respect to the Registrant's American Depositary Receipts.
3.3	Form of American Depositary Receipt; the Form is Exhibit A of the Form of Depositary Agreement.	Incorporated by reference to Exhibit 1 of the Registration Statement on Form F-6 (No. 333-175360) filed by the Bank of New York Mellon with respect to the Registrant's American Depositary Receipts.
4.1	BioLineRx Ltd., Amended and Restated 2003 Share Incentive Plan	Incorporated by reference to Exhibit 4.18 of the Registrant's Annual Report on Form 20-F (No. 001-35223) filed on March 10, 2016.
5.1	Opinion of Yigal Arnon & Co., Jerusalem, Israel, as to the legality of the securities being registered	Previously Filed.
5.2	Opinion of Morrison & Foerster LLP, New York, New York, as to the legality of the securities being registered	Previously Filed.
23.1	Consent of Yigal Arnon & Co., Jerusalem, Israel (included in Exhibit 5.1)	Previously Filed.
23.2	Consent of Morrison & Foerster LLP, New York, New York (included in Exhibit 5.2)	Previously Filed.
23.3	Consent of Kesselman & Kesselman, Certified Public Accountants (Isr.), a member of PricewaterhouseCoopers International Limited, independent registered public accounting firm for the Registrant	Filed herewith.

**Item 9. Undertakings.**

The undersigned registrant hereby undertakes:

- (1) to file, during any period in which offers or sales are being made, a post-effective amendment to the Registration Statement;
  - (i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933, as amended (the “Securities Act”);
  - (ii) to reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the change in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the “Calculation of Registration Fee” table in the effective Registration Statement; and
  - (iii) to include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;
- provided, however*, that paragraphs (a)(1)(i) and (a)(1)(ii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the Registration Statement;
- (2) that, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
  - (3) to remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant’s annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan’s annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

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## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Post-Effective Amendment No. 1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Modi'in, State of Israel, on March 29, 2017.

BIOLINERX LTD.

By: /s/ Philip A. Serlin

Philip A. Serlin  
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment No. 1 has been signed below by the following persons in the capacities and on the dates indicated:

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Philip A. Serlin</u> Philip A. Serlin	Chief Executive Officer (principal executive officer)	March 29, 2017
<u>/s/ Mali Zeevi</u> Mali Zeevi	Chief Financial Officer (principal financial officer and principal accounting officer)	March 29, 2017
<u>*</u> Aharon Schwartz, Ph.D.	Chairman of the Board	March 29, 2017
<u>*</u> Michael J. Anghel, Ph.D.	Director	March 29, 2017
<u>*</u> Nurit Benjamini	Director	March 29, 2017
<u>*</u> B.J. Bormann, Ph.D.	Director	March 29, 2017
<u>*</u> Raphael Hofstein, Ph.D.	Director	March 29, 2017
<u>*</u> Avraham Molcho, M.D.	Director	March 29, 2017
<u>*</u> Sandra Panem, Ph.D.	Director	March 29, 2017
<u>/s/ Miriam Katz</u> Vcorp Agent Services, Inc. Miriam Katz, Assistant Secretary	Authorized United States Representative	March 29, 2017

\* This Post-Effective Amendment No. 1 has been signed by the undersigned attorney-in-fact on behalf of each person so indicated pursuant to powers of attorney previously filed with the SEC.

/s/ Philip A. Serlin

Philip A. Serlin, Attorney-in-Fact

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated March 23, 2017 relating to the financial statements, which appears in BioLineRx Ltd.'s Annual Report on Form 20-F for the year ended December 31, 2016.

Tel-Aviv, Israel  
March 29, 2017

/s/ Kesselman & Kesselman  
Certified Public Accountants (Isr.)  
A member firm of PricewaterhouseCoopers International Limited

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*Kesselman & Kesselman, Trade Tower, 25 Hamered Street, Tel-Aviv 6812508, Israel,  
P.O Box 50005 Tel-Aviv 6150001 Telephone: +972 -3- 7954555, Fax: +972 -3- 7954556, [www.pwc.com/il](http://www.pwc.com/il)*