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**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 May 2017*

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**BioLineRx Ltd.**

(Translation of Registrant's name into English)

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**2 HaMa'ayan Street**

**Modi'in 7177871, Israel**

(Address of Principal Executive Offices)

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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

Indicate by check mark whether the registrant by furnishing the information contained in this form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934:

Yes

No

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The Registrant announces that it will hold the 2017 Annual General Meeting of Shareholders on July 5, 2017 at 3:00 p.m. (Israel time) at the Registrant's office, 2 HaMa'ayan Street, Modi'in, Israel. Attached hereto as Exhibits 1 and 2 are, respectively, the Notice of Annual General Meeting and Proxy Statement, and Proxy Card.

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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 Serlin  
Philip Serlin  
Chief Financial and Operating Officer

Dated: May 30, 2017

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**BIOLINERX LTD.**

**NOTICE OF  
2017 ANNUAL GENERAL MEETING OF SHAREHOLDERS**

July 5, 2017

Notice is hereby given that the Annual General Meeting of the shareholders (the “**Meeting**”) of BioLineRx Ltd. (the “**Company**”) will be held at the offices of the Company at Modi’in Technology Park, 2 HaMa’ayan Street, Modi’in 7177871, Israel, on July 5, 2017 at 3:00 p.m. for the following purposes:

1. To re-elect the following persons to the Board of Directors, each to serve until the next Annual General Meeting of shareholders: Aharon Schwartz, Michael Anghel, B.J. Bormann, Raphael Hofstein and Sandra Panem.
2. With respect to the compensation of Philip Serlin, the Company’s Chief Executive Officer, to approve the following proposals:
  - a. to approve the general terms of Mr. Serlin’s compensation; and
  - b. to approve the grant of options and performance stock units.
3. To approve an increase in the number of the Company’s authorized ordinary shares and authorized share capital, and to amend the Articles of Association of the Company to reflect such increase.
4. To reappoint Kesselman & Kesselman, Certified Public Accountants (Isr.), a member firm of PricewaterhouseCoopers International Limited, as the Company’s independent registered public accounting firm for the year ending December 31, 2017 and to authorize the Audit Committee of the Board of Directors to fix the compensation of said auditors in accordance with the scope and nature of their services.
5. To review the Company’s Annual Report and financial statements for the year ended December 31, 2016, and to transact such other business as may properly come before the Meeting.

Shareholders of record at the close of business on June 5, 2017 (the “**Record Date**”) are entitled to notice of and to vote at the Meeting. All shareholders are cordially invited to attend the Meeting in person.

Whether or not you plan to attend the Meeting, you are urged to promptly complete, date and sign the enclosed proxy and to mail it in the enclosed envelope, which requires no postage if mailed in the United States. A proxy from the holder of ordinary shares must be received by the Company no later than 3:00 p.m. on July 3, 2017 to be validly included in the tally of ordinary shares voted at the Meeting; a proxy from the holder of the Company’s American Depositary Shares must be received by The Bank of New York Mellon as Depositary no later than 12:00 p.m. EDT on June 29, 2017 to be validly included in the tally of votes for the Meeting. Return of your proxy does not deprive you of your right to attend the Meeting, to revoke the proxy or to vote your shares in person.

Beneficial owners who hold their shares through members of the Tel Aviv Stock Exchange (“**TASE**”) may (i) vote their shares in person at the Meeting by presenting a certificate signed by a member of the TASE which complies with the Israel Companies Regulations (Proof of Ownership for Voting in General Meetings), 5760-2000 as proof of ownership of the shares, (ii) send such certificate along with a duly executed proxy to the Company at 2 HaMa’ayan Street, Modi’in 7177871, Israel, Attention: General Counsel, or (iii) complete the Internet voting process via the electronic voting system of the Israel Securities Authority (the (“**ISA**”) after receiving a personal identifying number, an access code and additional information regarding this Meeting from the member of the TASE and after carrying out a secured identification process, up to six hours before the time set for the Meeting.

By Order of the Board of Directors,

BioLineRx Ltd.

May 30, 2017

**PROXY STATEMENT**

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**BIOLINERX LTD.**  
**Modi'in Technology Park**  
**2 HaMa'ayan Street**  
**Modi'in 7177871**  
**Israel**

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**2017 ANNUAL GENERAL MEETING OF SHAREHOLDERS**

July 5, 2017

The enclosed proxy is being solicited by our Board of Directors for use at our Annual General Meeting of shareholders (the "**Meeting**") to be held on July 5, 2017 at 3:00 p.m., or at any adjournment thereof, at the offices of the Company at Modi'in Technology Park, 2 HaMa'ayan Street, Modi'in 7177871, Israel. The record date for determining which of our shareholders is entitled to notice of, and to vote at, the Meeting is established as of the close of trade on June 5, 2017 (the "**Record Date**"). On the date hereof, we have outstanding and entitled to vote 95,617,620 of our ordinary shares, nominal value New Israeli Shekels ("**NIS**") 0.10 each (the "**Ordinary Shares**").

**INFORMATION CONCERNING SOLICITATION AND VOTING**

**Record Date and Shares Outstanding**

You are entitled to vote at the Meeting if you were a shareholder at the close of trade on the Record Date. Subject to the terms described herein, you are also entitled to vote at the Meeting if you held Ordinary Shares through a bank, broker or other nominee which was a shareholder of record of the Company at the close of trade on the Record Date or which appeared in the participant listing of a securities depository on that date.

**Quorum, Voting, Solicitation and Revocation of Proxies.**

At least two shareholders who attend the Meeting in person, by proxy or by means of voting via the electronic voting system of the Israel Securities Authority (the "ISA Electronic Voting System") who hold or represent together at least 25% of the voting rights of our issued share capital will constitute a quorum for the Meeting. If a quorum is not present within half an hour from the time scheduled for the Meeting, the Meeting will be adjourned to the following week, at the same time and place, without it being necessary to notify our shareholders. A quorum at such adjourned meeting shall be any number of participants. Each outstanding Ordinary Share held by a shareholder is entitled to one vote.

Shareholders entitled to vote at the Meeting may attend the Meeting in person and vote thereat, appoint a proxy, vote by written ballot or, if they hold Ordinary Shares through a TASE member, may vote electronically via the ISA Electronic Voting System after receiving a personal identifying number, an access code and additional information regarding the Meeting from the relevant member of the TASE and after carrying out a secured identification process, up to six hours before the time set for the Meeting. A proxy from the holder of Ordinary Shares must be received by the Company no later than 3:00 p.m. on July 3, 2017 to be validly included in the tally of Ordinary Shares voted at the Meeting; a proxy from the holder of the Company's American Depositary Shares ("ADSs") must be received by The Bank of New York Mellon as Depository no later than 12:00 p.m. EDT on June 29, 2017 to be validly included in the tally of votes for the Meeting.

Each of the Proposals 1, 3 and 4, pursuant to the Israeli Companies Law, 1999-5759 (the "**Companies Law**"), requires the affirmative vote of a simple majority of shares present at the Meeting, in person or by proxy, and voting thereon, or voting via the ISA Electronic Voting System.

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Pursuant to Section 272(C1)(1) of the Companies Law, Proposal 2 requires the affirmative vote of a simple majority of shares present at the Meeting, in person or by proxy, and voting thereon, or voting via the ISA Electronic Voting System, as long as either:

- the majority of shares that voted for the approval of the respective proposal includes at least a majority of the shares held by non-controlling and non-interested shareholders voted at the Meeting (excluding abstaining votes); or
- the total number of shares of non-controlling and non-interested shareholders that voted against the approval of the respective proposal does not exceed two percent of the aggregate voting rights in the company (“**Disinterested Majority**”).

Shareholders are requested to notify us whether or not they have a “Personal Interest” in connection with Proposal 2. If any shareholder casting a vote in connection with such does not notify us as to whether or not he, she or it has a Personal Interest with respect to a given proposal, that shareholder’s vote with respect to such proposal will be disqualified and will not be counted in determining whether the above Disinterested Majority approval requirements are satisfied.

For the purpose of determining whether the Disinterested Majority approval requirements have been satisfied, “Personal Interest” is defined as: (1) a shareholder’s personal interest in the approval of an act or a transaction of the company, including (i) the personal interest of his or her relative (which includes for these purposes any members of his/her (or his/her spouse’s) immediate family or the spouses of any such members of his or her (or his/her spouse’s) immediate family); and (ii) a personal interest of a body corporate in which a shareholder or any of his/her aforementioned relatives serves as a director or the chief executive officer, owns at least 5% of its issued share capital or its voting rights or has the right to appoint a director or chief executive officer, but (2) excluding a personal interest arising solely from the fact of holding shares in the company or in a body corporate. Under the Companies Law, in the case of a person voting by proxy for another person, “Personal Interest” includes a personal interest of either of the proxy holder or the shareholder granting the proxy, whether or not the proxy holder has discretion how to vote. If you do not have a Personal Interest in the above matter being presented to the shareholders, you may assume that using the form of proxy enclosed herewith will not create a Personal Interest.

As of the date of this proxy statement, the Company has no controlling shareholders within the meaning of the Companies Law. In addition, it believes that the vast majority of its shareholders should not have a Personal Interest in Proposal 2.

You may change your mind and cancel your proxy card by filing a written notice of revocation with the Company, by completing and returning a duly executed proxy card bearing a later date or by voting in person at the Meeting. Attendance at the Meeting will not in and of itself constitute revocation of proxy. Subject to the foregoing paragraph, shares represented by a valid proxy card will be voted in favor of the proposed resolution to be presented at the Meeting, unless you clearly vote against a specific resolution.

Under the terms of the Deposit Agreement among the Company, The Bank of New York Mellon, as Depositary, and the holders of the Company’s ADSs, the Depositary shall endeavor (insofar as is practicable and in accordance with the applicable law and the articles of association of the Company) to vote or cause to be voted the number of Ordinary Shares represented by ADSs in accordance with the instructions provided by the holders of ADSs to the Depositary. If no instructions are received by the Depositary from any holder of ADSs with respect to any of the Ordinary Shares represented by the ADSs evidenced by such holder’s receipts on or before the date established by the Depositary for such purpose (as set forth above), then the Depositary will deem the holder of the Ordinary Shares to have instructed the Depositary to give a discretionary proxy to a person designated by the Company with respect to the Ordinary Shares represented by such ADSs, and the Depositary will give such instruction. In such case, the restrictions of the Companies Law with respect to “Personal Interest” as described above, would apply as well.

## PRINCIPAL SHAREHOLDERS

The following table sets forth certain information regarding the beneficial ownership of our outstanding Ordinary Shares as of May 30, 2017, by each person who we know beneficially owns 5.0% or more of the outstanding Ordinary Shares. Each of our shareholders has identical voting rights with respect to its shares. All of the information with respect to beneficial ownership of the Ordinary Shares is given to the best of our knowledge.

The beneficial ownership of Ordinary Shares is based on the 95,617,620 Ordinary Shares outstanding as of May 30, 2017, and is determined in accordance with the rules of the Securities and Exchange Commission (the “SEC”) and generally includes any Ordinary Shares over which a person exercises sole or shared voting or investment power. For purposes of the table below, we deem shares subject to options or warrants that are currently exercisable or exercisable within 60 days of May 30, 2017, to be outstanding and to be beneficially owned by the person holding the options or warrants for the purposes of computing the percentage ownership of that person but we do not treat them as outstanding for the purpose of computing the percentage ownership of any other person. To our knowledge, none of our shareholders of record are U.S. holders. Our principal shareholders do not have different or special voting rights.

	<b>Number of Shares Beneficially Held</b>	<b>Percent of Class</b>
BVF Partners L.P. <sup>(1)</sup>	17,500,000	18.3
Senvest Management, LLC <sup>(2)</sup>	7,667,619	8.0
Novartis Pharma AG <sup>(3)</sup>	5,000,000	5.2

(1) Based upon information provided by the shareholder in its Schedule 13G filed with the SEC on April 10, 2017. BVF Partners L.P. (“Partners”), as the general partner of Biotechnology Value Fund, L.P. (“BVF”), Biotechnology Value Fund II, L.P. (“BVF2”), the investment manager of Biotechnology Value Trading Fund OS LP (“Trading Fund OS”), and the sole member of BVF Partners OS Ltd. (“Partners OS”), may be deemed to beneficially own the 17,500,000 Ordinary Shares beneficially owned in the aggregate by BVF, BVF2, Trading Fund OS, and certain Partners managed accounts (the “Partners Managed Accounts”). BVF Inc., as the general partner of Partners, may be deemed to beneficially own the 17,500,000 Ordinary Shares beneficially owned by Partners. Mark N. Lampert, as president and a director of BVF Inc., may be deemed to beneficially own the 17,500,000 Ordinary Shares beneficially owned by BVF Inc. The foregoing should not be construed in and of itself as an admission by any of the foregoing entities as to beneficial ownership of any Ordinary Shares owned by another of such entities. Partners OS disclaims beneficial ownership of the Ordinary Shares beneficially owned by Trading Fund OS. Each of Partners, BVF Inc. and Mr. Lampert disclaims beneficial ownership of the Ordinary Shares beneficially owned by BVF, BVF2, Trading Fund OS and the Partners Managed Accounts. The address of the principal business office of BVF Partners L.P. is 1 Sansome Street, 30<sup>th</sup> Floor, San Francisco, California 94104.

(2) Based upon information provided by the shareholder in its Schedule 13G filed with the SEC on February 13, 2017. The securities indicated above are held in the accounts of Senvest Master Fund, LP, Senvest Israel Partners Master Fund, LP and Senvest Global (KY), LP (collectively, the “Investment Vehicles”). Senvest Management, LLC (“SML”) may be deemed to beneficially own the securities held by the Investment Vehicles by virtue of SML’s position as investment manager of the Investment Vehicles. Richard Mashaal may be deemed to beneficially own the securities held by the Investment Vehicles by virtue of Mr. Mashaal’s status as the managing member of SML. None of the foregoing should be construed in and of itself as an admission by either SML or Mr. Mashaal as to beneficial ownership of the securities indicated above. The address of the principal business office of Senvest Management, LLC is 540 Madison Avenue, 32<sup>nd</sup> Floor, New York, New York 10022.

(3) Based upon information provided by the shareholder in its Schedule 13G filed with the SEC on December 22, 2014. Novartis AG is the parent of Novartis Pharma AG and as such is indicated as sharing voting and dispositive power with respect to the Ordinary Shares underlying the securities held by Novartis Pharma AG and is deemed to have beneficial ownership of such securities. The address of the principal business office of each of Novartis Pharma AG and Novartis AG is Lichtstrasse 35, 4056 Basel, Switzerland.

## COMPENSATION OF OFFICERS

Compensation for our executive officers, based on each officer's employment agreement and personal contribution to our management, operations and success, will be determined in accordance with our Compensation Policy for Executives and Directors (the "**Compensation Policy**"). As required by the Companies Law, at the annual general meeting in 2016 our shareholders approved the renewal of the Compensation Policy for a term of three years ending July 5, 2019.

For information regarding compensation actually received by our five most highly paid executive officers during the year ended December 31, 2016, please see "Item 6 – Directors, Senior Management and Employees – Compensation of Directors and Senior Management" in the Company's annual report on Form 20-F for the year ended December 31, 2016.

### **PROPOSAL ONE RE-ELECTION OF NON-EXTERNAL DIRECTORS**

Our Board of Directors has designated the persons named below for election to serve until the next Annual General Meeting of our shareholders. In the absence of instructions to the contrary, the persons named in the enclosed proxy will vote the Ordinary Shares represented thereby "For" the election of the directors listed below as a group. If any of such directors is unable to serve, the persons named in the proxy shall vote the Ordinary Shares for the election/re-election of such other nominee/director as the Board of Directors may propose. The following nominees have advised the Company that they will serve as directors upon election.



The following provides certain relevant information concerning the directors, including their principal occupations during at least the past five years.

<u>Director</u>	<u>Age</u>	<u>Principal Occupation</u>
Aharon Schwartz, Ph.D.	74	Dr. Schwartz has served as the Chairman of our Board of Directors since 2004. He served in a number of positions in Teva from 1975 through 2011, the most recent being Vice President, Head of Teva Innovative Ventures from 2008. Dr. Schwartz is currently chairman of the boards of numerous life science companies, including D-Pharm Ltd., BioCancell Ltd., CureTech Ltd. and Biomas Ltd. Dr. Schwartz also serves on the board of directors of Protalix Ltd. and as a consultant to Clal Biotechnology Industries Ltd. Dr. Schwartz received his Ph.D. in organic chemistry from the Weizmann Institute, his M.Sc. in organic chemistry from the Technion and a B.Sc. in chemistry and physics from the Hebrew University of Jerusalem. In addition, Dr. Schwartz holds a Ph.D. from the Hebrew University of Jerusalem in the history and philosophy of science.
Michael Anghel, Ph.D.	77	Dr. Anghel has served on our Board of Directors since 2010 and on our Investment Monitoring Committee since 2010. From 1977 to 1999, he led the Discount Investment Corporation Ltd. (of the IDB Group) activities in the fields of technology and communications. Dr. Anghel was instrumental in founding Tevel, one of the first Israeli cable television operators and later in founding Cellcom Israel Ltd. (NYSE:CEL), the second Israeli cellular operator. In 1999, he founded CAP Ventures, an advanced technology investment company. From 2004 to 2005, Dr. Anghel served as CEO of DCM, the investment banking arm of the Israel Discount Bank (TASE:DSCT). He has been involved in various technology enterprises and has served on the Boards of Directors of various major Israeli corporations and financial institutions including Elron Electronic Industries Ltd. (TASE:ELRN), Elbit Systems Ltd. (Nasdaq:ESLT, TASE:ESLT), Nice Systems (Nasdaq:NICE), Gilat Satellite Networks Ltd. (Nasdaq:GILT), American Israeli Paper Mills (now Hadera Paper Ltd. (AMEX:AIP)), Maalot (the Israeli affiliate of Standard and Poor's) and Hapoalim Capital Markets. He currently serves on the Boards of Directors of Partner Communications Company, Ltd. (Nasdaq:PTNR, TASE:PTNR), Syneron Medical Ltd. (Nasdaq:ELOS), Evogene Ltd. (Nasdaq:EVGN, TASE:EVGN), Dan Hotels Ltd. (TASE:DANH), Orbotech Ltd. (Nasdaq:ORBK, GSM:ORBK) and the Strauss Group Ltd. (TASE:STRS). Until recently, he was also the chairman of the Center for Educational Technology. Prior to launching his business career, Dr. Anghel served as a full-time member of the Recanati Graduate School of Business Administration of the Tel Aviv University, where he taught finance and corporate strategy. He currently serves as Chairman of the Tel Aviv University's Executive Program. Dr. Anghel holds a B.A. (Economics) from the Hebrew University in Jerusalem and an MBA. and Ph.D. (Finance) from Columbia University, New York.
B.J. Bormann, Ph.D.	58	Dr. Bormann has served on our Board of Directors since August 2013. Dr. Bormann currently serves as the CEO of Supportive Therapeutics, LLC, a Boston based company that is developing two molecules for use in the supportive care of oncology patients. In the past several years Dr. Bormann has held executive positions in several biotechnology companies including NanoMedical Systems (Austin, Texas), Harbour Antibodies (Rotterdam, The Netherlands) and Pivot Pharmaceuticals (PVTF: OTC listed). Prior to these engagements, Dr. Bormann was Senior Vice President responsible for world-wide alliances, licensing and business development at Boehringer Ingelheim Pharmaceuticals, Inc. from 2007 to 2013. From 1996 to 2007, she served in a number of positions at Pfizer, Inc., the last one being Vice President of Pfizer Global Research and Development and world-wide Head of Strategic Alliances. Dr. Bormann serves on the board of directors of various companies, including Supportive Therapeutics, LLC, and the Institute for Pediatric Innovation. Dr. Bormann received her Ph.D. in biomedical science from the University of Connecticut Health Center and her B.Sc. from Fairfield University in biology. Dr. Bormann completed postdoctoral training at Yale Medical School in the department of pathology.

- Raphael Hofstein, Ph.D. 67 Dr. Hofstein has served on our Board of Directors since 2003, our Audit Committee since 2007 and our Compensation Committee since 2012. Dr. Hofstein has served as the President and Chief Executive Officer of MaRS Innovation (a commercialization company for 15 of Toronto's universities, institutions and research institutes plus the MaRS Discovery District) since June 2009. From 2000 through June 2009, Dr. Hofstein was the President and Chief Executive Officer of Hadasit Medical Research Services and Development Ltd., or Hadasit, the technology transfer company of Hadassah University Hospitals. He has served as chairman of the board of directors of Hadasit since 2006. Prior to joining Hadasit, Dr. Hofstein was the President of Mindsense Biosystems Ltd. and the Business Unit Director of Ecogen Inc. and has held a variety of other positions, including manager of R&D and chief of immunochemistry at the International Genetic Science Partnership. Dr. Hofstein serves on the board of directors of numerous companies, including Hadasit Bio-Holdings Ltd. (TASE:HDST). Dr. Hofstein received his Ph.D. and M.Sc. from the Weizmann Institute of Science, and his B.Sc. in chemistry and physics from the Hebrew University in Jerusalem. Dr. Hofstein completed postdoctoral training at Harvard Medical School in both the departments of biological chemistry and neurobiology.
- Sandra Panem, Ph.D. 70 Dr. Panem has been a member of our Board since February 2014. She is currently a managing partner at Cross Atlantic Partners, which she joined in 2000. She is also co-founder and President of NeuroNetworks Fund, a not-for-profit venture capital fund focusing on epilepsy, schizophrenia and autism. From 1994 to 1999, Dr. Panem was President of Vector Fund Management, the then asset management affiliate of Vector Securities International. Prior thereto, Dr. Panem served as Vice President and Portfolio Manager for the Oppenheimer Global BioTech Fund, a mutual fund that invested in public and private biotechnology companies. Previously, she was Vice President at Salomon Brothers Venture Capital, a fund focused on early and later-stage life sciences and technology investments. Dr. Panem was also a Science and Public Policy Fellow in economic studies at the Brookings Institution, and an Assistant Professor of Pathology at the University of Chicago. Dr. Panem currently serves on the boards of directors of Acorda Therapeutics, Inc. (NASDAQ:ACOR) and Labcyte, Inc. Previously, Dr. Panem served on numerous boards of public and private companies, including Martek Biosciences (Nasdaq:MATK), IBAH Pharmaceuticals (Nasdaq:IBAH), Confluent Surgical and Molecular Informatics. She received a B.S. in biochemistry and a Ph.D. in microbiology from the University of Chicago.

Our Articles of Association specify that the number of directors will be at least five but not more than ten. The current Board of Directors consists of seven members.

Each director has attested to the Board of Directors and the Company that he or she meets all the requirements in connection with the election of directors of publicly-traded companies under the Companies Law.

If re-elected pursuant to this proposal, each director will continue to be party to an indemnification agreement with the Company in the form of indemnification letter approved by the shareholders in November 2011 to be entered into by the Company with directors serving from time to time in such capacity. Each director will continue to be insured under the Company's directors' and officers' insurance coverage policy which provides coverage for all directors of the Company. In addition, each director will receive cash participation compensation and annual compensation in accordance with the Companies Law Regulations (Rules concerning Compensation and Expenses of an External Director), 5760-2000 (the "External Directors Compensation Regulations") and with our Compensation Policy. The amounts to be paid are between the fixed and maximum rates specified in the annexes of the External Directors Compensation Regulations and are the same for all directors in the Company, both external and non-external. Those amounts have been approved by the Compensation Committee of the Board of Directors and by the Board as required by the Companies Law and applicable regulations. Lastly, each director will be granted options to purchase 20,000 of the Company's Ordinary Shares as approved by the shareholders at the annual general meeting in 2016.

Our Board of Directors will present the following resolution for adoption at the Meeting:

**"RESOLVED, to re-elect Aharon Schwartz, Michael Anghel, B.J. Bormann, Raphael Hofstein and Sandra Panem as directors of the Company until the next Annual General Meeting of Shareholders or until their respective successors are duly elected."**

The affirmative vote of the holders of a majority of the voting power represented at the Meeting is necessary for the approval of the foregoing resolution.

## **PROPOSAL TWO APPROVAL OF COMPENSATION OF PHILIP SERLIN, CEO**

In October 2016, Mr. Philip Serlin became the Company's Chief Executive Officer, after having served as our Chief Financial Officer since 2009. At the time of his appointment as CEO and through the date of this proxy statement, no changes were made in the terms of Mr. Serlin's employment agreement from 2009 except for the amount of his base salary as indicated below. Pursuant to the Companies Law, arrangements regarding the compensation of the Company's Chief Executive Officer require the approval of the Compensation Committee, the Board of Directors and the shareholders, in that order. The Compensation Committee and the Board of Directors approved the terms of Mr. Serlin's compensation prior to his assuming the position of CEO. Pursuant to Section 1B4 of the Companies Regulations (Relaxations in Transactions with Interested Parties) 5760-2000, approval of such terms by the shareholders may be made at the first general meeting following the appointment of a new chief executive officer, and therefore approval of Mr. Serlin's compensation terms is being sought at this Meeting.

### A. Approval of Mr. Serlin's general compensation terms

The following is a summary of Mr. Serlin's current compensation terms since assuming the position of CEO.

**Base Salary:** When Mr. Serlin became CEO, his annual base salary was fixed at NIS 864,000 per year<sup>1</sup> (approximately \$242,000 according to the exchange rate of the US dollar to NIS reported by the Bank of Israel on May 26, 2017).

**Benefits:** Mr. Serlin is entitled to certain benefits and perquisites (including those mandated by applicable law and/or generally provided to all other employees). Such benefits and perquisites include 21 days' vacation a year, up to 18 days of sick leave a year, convalescence pay according to applicable law, contributions on account of pension insurance (remuneration and severance), life, medical insurance and disability insurance, car, mobile telephone, telecommunication services, as well as other benefits and perquisites consistent with related Company guidelines that define the types of benefits available to all employees and the limits on such benefits.

**Bonuses:** The Company's Compensation Policy creates the framework for the payment of bonuses to the Chief Executive Officer. Each year, the Board of Directors will establish the quantitative parameters and goals for determining the appropriateness and amount of Mr. Serlin's annual cash bonus for the fiscal year 2017 and thereafter. Subject to the fulfillment of such parameters and goals, the Board of Directors may decide to grant Mr. Serlin an annual cash bonus in an amount not exceeding eight Monthly Salaries. In addition, pursuant to the Compensation Policy, the Board of Directors has the discretion to approve the award to Mr. Serlin from time to time of a special cash bonus, in the circumstances described in section 4.2 of the Compensation Policy and in an amount not exceeding four Monthly Salaries.

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<sup>1</sup> NIS 72,000 per month (the "Monthly Salary")

**Equity-based Compensation:** Subject to the approvals required by the Companies Law, the Board of Directors may grant Mr. Serlin equity-based compensation in any form permitted under the Company's Amended and Restated 2003 Share Incentive Plan (the "Incentive Plan").

**Indemnification and Insurance:** Mr. Serlin will continue to be party to an indemnification agreement with the Company in the form of indemnification letter approved by the shareholders in November 2011 to be entered into by the Company with officers serving from time to time in such capacity. The form of the indemnification letter appears as Annex 1 to the proxy statement filed by the Company with the SEC and ISA on October 13, 2011. Mr. Serlin will continue to be insured under the Company's directors' and officers' insurance coverage policy which provides coverage for all officers of the Company.

The Compensation Committee and the Board of Directors have determined that the compensation described above is (i) for the good of the Company and (ii) reasonable and appropriate in light of Mr. Serlin's role as CEO, his qualifications and experience and his past and anticipated contributions to the advancement of the Company's activities.

Our Board of Directors will present the following resolution for adoption at the Meeting:

**"RESOLVED, to approve the general terms of compensation of Mr. Philip Serlin, the Chief Executive Officer of the Company, as described in the Proxy Statement dated May 30, 2017."**

Pursuant to the Companies Law, approval of this proposal requires the affirmative vote of a Disinterested Majority of shares present at the meeting, in person or by proxy, and voting thereon.

**Our Board of Directors recommends a vote "FOR" approval of Mr. Serlin's terms of compensation.**

**B. Grant of Options and Performance Stock Units ("PSUs")**

The Company's Incentive Plan provides for the grant of equity compensation to our officers in the form of options to purchase Ordinary Shares and PSUs, among other instruments. Equity-based compensation is intended to reward for future performance and is used to foster a long-term link between our officers' interests and the interests of the Company and its shareholders as well as to attract, motivate and retain officers for the long term. Options create a direct link to share performance, compensating officers if the price of our Ordinary Shares rises in relation to the exercise price of the options. Performance stock units, the vesting of which is based on pre-determined, significant Company business milestones, are intended to attract, motivate and retain officers by linking compensation closely to Company performance.

Following approval by our Compensation Committee, our Board of Directors approved, subject to shareholder approval, the grant to Mr. Serlin of options to purchase 316,000 of our Ordinary Shares. The exercise price of the options is NIS 4.587 per share (equivalent to approximately \$1.28 per ADS), which is equal to 100% of the closing price of the Ordinary Shares on the TASE on the date the grant was approved by the Board. The options will vest over a period of four years (25% after one year, 6.25% each quarter thereafter), for so long as Mr. Serlin continues to serve as an employee of the Company or otherwise provide services to the Company at the time of vesting. The grant to Mr. Serlin contains provisions for the acceleration of the vesting of the options granted to him on the occurrence of both (i) a change of control of the Company (as will be defined in Mr. Serlin's option agreement) and (ii) following such change of control, either the termination of Mr. Serlin's employment or a significant demotion in his new job or position. As of the date of this proxy statement, Mr. Serlin is the beneficial holder of 222,096 Ordinary Shares (approximately 0.2% of the Company's outstanding shares), all of which are options to purchase our Ordinary Shares.

In addition, following approval by our Compensation Committee, our Board of Directors approved, subject to shareholder approval, the grant to Mr. Serlin of 158,000 PSUs. It is the view of our Board of Directors that from 2016 forward, equity compensation for our officers should be more aligned with performance than in the past, and therefore the proposed grant of PSUs to Mr. Serlin constitutes a significant portion of his total equity compensation. The vesting of such PSUs will occur if the Company achieves certain milestones over the next several years.

The Compensation Committee and the Board of Directors have determined that the equity compensation described above is (i) for the good of the Company and (ii) reasonable and appropriate in light of Mr. Serlin's role as CEO, his qualifications and experience and his past and anticipated contributions to the advancement of the Company's activities. The total fair value of Mr. Serlin's proposed equity compensation does not exceed the limits provided for in the Compensation Policy.

Our Board of Directors will present the following resolution for adoption at the Meeting:

**“RESOLVED, to approve the grant to Mr. Philip Serlin, the Chief Executive Officer of the Company, of (i) options to purchase 316,000 Ordinary Shares and (ii) 158,000 performance stock units, all as described in the Proxy Statement dated May 30, 2017.”**

Pursuant to the Companies Law, approval of this proposal requires the affirmative vote of a Disinterested Majority of shares present at the meeting, in person or by proxy, and voting thereon.

**Our Board of Directors recommends a vote “FOR” approval of the proposed equity grants to Mr. Serlin.**

**PROPOSAL THREE  
INCREASE IN THE COMPANY’S SHARE CAPITAL AND CORRESPONDING AMENDMENT TO  
ARTICLE 4.1 OF THE COMPANY’S ARTICLES OF ASSOCIATION**

At the Meeting, we will propose that an increase in the share capital of the Company be approved.

The registered share capital of the Company is NIS 15,000,000, divided into 150,000,000 Ordinary Shares with a nominal value of NIS 0.10 each. As of May 30, 2017, the Company had 95,617,620 Ordinary Shares issued and outstanding. As of the same date, the Company had an additional 8,070,377 shares reserved for purposes of our Incentive Plan and for the exercise of outstanding warrants, leaving only 46,312,760 authorized but unissued shares available for other purposes.

Under the Companies Law, a company may not issue shares in excess of its registered share capital. The Company wishes to have a sufficient reserve of authorized but unissued shares available for corporate purposes, including without limitation, offerings of its shares and additional grants of options to grantees eligible under the Incentive Plan or any other option plan which may be adopted by the Company in the future.

Therefore, we propose to increase the Company’s share capital from NIS 15,000,000 to NIS 25,000,000 divided into 250,000,000 Ordinary Shares of a nominal value of NIS 0.10 each.

Our Board of Directors will present the following resolution for adoption at the Meeting:

**“RESOLVED, that the Company’s registered share capital be increased from NIS 15,000,000 divided into 150,000,000 Ordinary Shares of a nominal value of NIS 0.10 each to NIS 25,000,000 divided into 250,000,000 Ordinary Shares of a nominal value of NIS 0.10 each and that Article 4.1 of the Company’s Articles of Association be amended accordingly.”**

The affirmative vote of the holders of a majority of the voting power represented at the Meeting is necessary for the approval of the foregoing resolution.

**Our Board of Directors recommends a vote “FOR” approval of the proposed increase in registered share capital and corresponding amendment to the Company’s Articles of Association.**

**PROPOSAL FOUR  
APPOINTMENT OF INDEPENDENT PUBLIC AUDITOR**

Kesselman & Kesselman, a member firm of PricewaterhouseCoopers International Limited, have audited the Company’s financial statements beginning with the financial statements for the year ended December 31, 2003. Except as the Company’s auditors, there is no other affiliation between such firm and the Company.

The Companies Law requires shareholder approval of the appointment of the Company’s independent public accountants for the fiscal year ending December 31, 2017. Our Board of Directors recommended and upon such recommendation, at the last Annual General Meeting, the Company’s shareholders appointed the accounting firm of Kesselman & Kesselman as our independent registered public accounting firm to perform the audit of our consolidated financial statements for the fiscal year ending December 31, 2016. The Board of Directors believes that the appointment of Kesselman & Kesselman as the Company’s independent registered public accounting firm to perform the audit of the Company’s consolidated financial statements for the fiscal year ending December 31, 2017 is appropriate and in the interests of the Company and its shareholders. Subject to the approval of this proposal, the Audit Committee of the Board of Directors will fix the compensation of Kesselman & Kesselman in accordance with the scope and nature of their services to the Company.

In compliance with the Companies Law, our Board of Directors will present the following resolution for adoption at the Meeting:

**“RESOLVED, to reappoint Kesselman & Kesselman, Certified Public Accountants (Isr.), a member firm of PricewaterhouseCoopers International Limited, as the independent registered public accounting firm of the Company for the year ending December 31, 2017 and to authorize the Audit Committee of the Board of Directors to fix the compensation of said auditors in accordance with the scope and nature of their services.”**

The affirmative vote of the holders of a majority of the voting power represented at the Meeting is necessary for the approval of the foregoing resolution.

**Our Board of Directors recommends a vote “FOR” approval of the proposed appointment of Kesselman & Kesselman as the independent registered public accounting firm of the Company for the year ending December 31, 2017 and the authorization of the Audit Committee of the Board of Directors to fix their compensation.**

**ITEM FIVE  
REVIEW OF THE COMPANY’S ANNUAL REPORT AND FINANCIAL STATEMENTS FOR THE YEAR  
ENDED DECEMBER 31, 2016, AND TRANSACTION OF SUCH OTHER BUSINESS AS MAY PROPERLY  
COME BEFORE THE MEETING**

The audited financial statements of the Company for the fiscal year ended December 31, 2016 were filed together with the Company’s Annual Report on Form 20-F, which was filed on March 23, 2017 with the SEC and is available at the SEC’s website, [www.sec.gov](http://www.sec.gov), and at the Magna website of the ISA at [www.magna.isa.gov.il](http://www.magna.isa.gov.il). We will hold a discussion with respect to the Annual Report and financial statements at the Meeting. This item will not involve a vote by the shareholders.

The Company’s management is not aware of any other business to be transacted at the Meeting. However, if any other matters are properly presented to the Meeting, the persons named as proxies in the enclosed form of proxy will vote upon such matters in accordance with their best judgment.

**Where to Find More Information**

We are subject to the information reporting requirements of the U.S. Securities Exchange Act of 1934, as amended (the “**Exchange Act**”), applicable to foreign private issuers and we fulfill the obligations with respect to those requirements by filing reports with the SEC. Our filings with the SEC may be inspected without charge at the SEC’s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Information on the operation of the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330. Our SEC filings are also available to the public from the SEC’s website at [www.sec.gov](http://www.sec.gov), the ISA’s website at [www.magna.isa.gov.il](http://www.magna.isa.gov.il) and the Company’s website at [www.biolineerx.com](http://www.biolineerx.com). Shareholders may obtain information directly from the Company, whose registered office is at 2 HaMa’ayan Street, Modi’in 7177871, Israel and whose telephone number is +972-8-642-9100.

As a foreign private issuer, we are exempt from the rules under the Exchange Act related to the furnishing and content of proxy statements. The circulation of this proxy statement and related notice should not be taken as an admission that we are subject to those proxy rules. Furthermore, our officers, directors and principal shareholders are exempt from the reporting and “short-swing” profit recovery provisions contained in Section 16 of the Exchange Act and the rules thereunder, with respect to their purchases and sales of securities. Lastly, we are not required under the Exchange Act to file periodic reports and financial statements with the SEC as frequently or as promptly as United States companies whose securities are registered under the Exchange Act.

YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED IN THIS PROXY STATEMENT OR THE INFORMATION FURNISHED TO YOU IN CONNECTION WITH THIS PROXY STATEMENT WHEN VOTING ON THE MATTERS SUBMITTED TO SHAREHOLDER APPROVAL HEREUNDER. WE HAVE NOT AUTHORIZED ANYONE TO PROVIDE YOU WITH INFORMATION THAT IS DIFFERENT FROM WHAT IS CONTAINED IN THIS DOCUMENT. THIS PROXY STATEMENT IS DATED MAY 30, 2017. YOU SHOULD NOT ASSUME THAT THE INFORMATION CONTAINED IN THIS DOCUMENT IS ACCURATE AS OF ANY DATE OTHER THAN MAY 30, 2017, AND THE MAILING OF THIS DOCUMENT TO SHAREHOLDERS SHOULD NOT CREATE ANY IMPLICATION TO THE CONTRARY.

Shareholders are urged to complete and return their proxies promptly in order to, among other things, ensure the presence of a quorum at the Meeting and to avoid the expense of additional solicitation. If the accompanying proxy is properly executed (including the indication of a vote on the proposed matters) and returned in time for voting, the shares represented thereby will be voted as indicated thereon. IF NO SPECIFICATION IS MADE, AND EXCEPT AS OTHERWISE MENTIONED IN THIS PROXY STATEMENT, THE ORDINARY SHARES REPRESENTED BY THE PROXY WILL BE VOTED IN FAVOR OF THE PROPOSALS DESCRIBED IN THIS PROXY STATEMENT.

By Order of the Board of Directors

BioLineRx Ltd.

May 30, 2017

**BIOLINERX LTD.**

**For the Annual General Meeting of Shareholders  
to be held on July 5, 2017**

**THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS**

The undersigned shareholder of BioLineRx Ltd. (the “**Company**”) hereby appoints Norman Kotler and/or Raziel Fried, and each or either of them, the true and lawful attorney, agent and proxy of the undersigned, with full power of substitution, to vote, as designated below, all of the ordinary shares of the Company which the undersigned is entitled in any capacity to vote at the Annual General Meeting of the shareholders of the Company which will be held at the offices of the Company at Modi’in Technology Park, 2 HaMa’ayan Street, Modi’in 7177871, Israel, on July 5, 2017 at 3:00 p.m. (local time), and all adjournments and postponements thereof.

(CONTINUED AND TO BE SIGNED ON REVERSE

SEE REVERSE SIDE
------------------------

SIDE)



## BIOLINERX LTD.

July 5, 2016

**THIS PROXY WHEN PROPERLY EXECUTED WILL BE VOTED AS DIRECTED HEREIN.  
IF NO DIRECTION IS INDICATED, THIS PROXY WILL BE VOTED "FOR" THE PROPOSALS HEREIN.**

**Please mark your vote for the following resolutions as in this example**

- |       |   |                          |                          |                          |
|-------|---|--------------------------|--------------------------|--------------------------|
| 1.    | TO RE-ELECT the following nominees to serve as directors of the Company for the coming year until the next annual general meeting of the Company's shareholders or until their respective successors are duly elected:                  | <b>FOR</b>               | <b>AGAINST</b>           | <b>ABSTAIN</b>           |
|       | a. Aharon Schwartz  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|       | b. Michael Anghel   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|       | c. B.J. Bormann   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|       | d. Raphael Hofstein   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|       | e. Sandra Panem   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2(a). | TO APPROVE the general terms of the compensation of Philip Serlin, the Company's Chief Executive Officer, as described in the Proxy Statement.  | <b>FOR</b>               | <b>AGAINST</b>           | <b>ABSTAIN</b>           |
|       |   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|       | Do you have a "Personal Interest" (as defined in the Proxy Statement) with respect to the subject matter of this proposal? <b>(Please note: if you do not mark either "Yes" or "No" your shares will not be voted on Proposal 2(a))</b> | <b>YES</b>               | <b>NO</b>                |                          |
|       |   | <input type="checkbox"/> | <input type="checkbox"/> |                          |
| 2(b). | TO APPROVE the grant to Philip Serlin, the Company's Chief Executive Officer, of (i) options to purchase 316,000 Ordinary Shares and (ii) 158,000 performance stock units, all as described in the Proxy Statement.                     | <b>FOR</b>               | <b>AGAINST</b>           | <b>ABSTAIN</b>           |
|       |   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|       | Do you have a "Personal Interest" (as defined in the Proxy Statement) with respect to the subject matter of this proposal? <b>(Please note: if you do not mark either "Yes" or "No" your shares will not be voted on Proposal 2(b))</b> | <b>YES</b>               | <b>NO</b>                |                          |
|       |   | <input type="checkbox"/> | <input type="checkbox"/> |                          |

3. TO APPROVE an increase in the Company's registered share capital from NIS 15,000,000 divided into 150,000,000 ordinary shares of a nominal value of NIS 0.10 each to NIS 25,000,000 divided into 250,000,000 ordinary shares of a nominal value of NIS 0.10 each, and a corresponding amendment to Article 4.1 of the Company's Articles of Association.

**FOR**

**AGAINST**

**ABSTAIN**

Name: \_\_\_\_\_

Number of shares: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

4. TO REAPPOINT Kesselman & Kesselman, a member of Pricewaterhouse-Coopers International Limited, as the independent registered public accounting firm of the Company for the year ending December 31, 2017 and to authorize the Audit Committee of the Board of Directors to fix the compensation of said auditors in accordance with the scope and nature of their services.

**FOR**

**AGAINST**

**ABSTAIN**

NOTE: Please mark date and sign exactly as the name(s) appear on this proxy. If the signer is a corporation, please sign the full corporate name by a duly authorized officer. Executors, administrators, trustees, etc. should state their full title or capacity. Joint owners should each sign.