

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 13D  
(Rule 13d-101)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT  
TO § 240.13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT TO  
§ 240.13d-2(a)

(Amendment No. )<sup>1</sup>

BioLineRx Ltd.  
(Name of Issuer)

Ordinary Shares, par value NIS 0.10 per share  
(Title of Class of Securities)

09071M106  
(CUSIP Number)

MARK N. LAMPERT  
BVF PARTNERS L.P.  
1 Sansome Street, 30th Floor  
San Francisco, California 94104  
(415) 525-8890

ADAM W. FINERMAN, ESQ.  
OLSHAN FROME WOLOSKY LLP  
1325 Avenue of the Americas  
New York, New York 10019  
(212) 451-2300

(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)

July 26, 2017  
(Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box .

*Note:* Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See § 240.13d-7 for other parties to whom copies are to be sent.

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<sup>1</sup> The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the *Notes*).

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1	NAME OF REPORTING PERSON  BIOTECHNOLOGY VALUE FUND, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS  WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION  DELAWARE	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER  - 0 -
	8	SHARED VOTING POWER  12,129,350*
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  12,129,350*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  12,129,350*	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  11.7%	
14	TYPE OF REPORTING PERSON  PN	

\* Represents 12,129,350 American Depositary Shares ("ADS") (each ADS represents one Share (as defined below)). Includes 30,625 ADSs issuable upon the exercise of certain Series A Warrants (as defined below) to purchase ADSs.

1	NAME OF REPORTING PERSON  BIOTECHNOLOGY VALUE FUND II, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS  WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION  DELAWARE	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER  - 0 -
	8	SHARED VOTING POWER  7,792,854*
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  7,792,854*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  7,792,854*	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  7.5%	
14	TYPE OF REPORTING PERSON  PN	

\* Represents 7,792,854 ADSs (each ADS represents one Share (as defined below)).

1	NAME OF REPORTING PERSON  BIOTECHNOLOGY VALUE TRADING FUND OS LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS  WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION  CAYMAN ISLANDS	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER  - 0 -
	8	SHARED VOTING POWER  2,167,956*
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  2,167,956*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  2,167,956*	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  2.1%	
14	TYPE OF REPORTING PERSON  PN	

\* Represents 2,167,956 ADSs (each ADS represents one Share (as defined below)).

1	NAME OF REPORTING PERSON  BVF PARTNERS OS LTD.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS  AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION  CAYMAN ISLANDS	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER  - 0 -
	8	SHARED VOTING POWER  2,167,956*
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  2,167,956*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  2,167,956*	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  2.1%	
14	TYPE OF REPORTING PERSON  CO	

\* Represents 2,167,956 ADSs (each ADS represents one Share (as defined below)).

1	NAME OF REPORTING PERSON  BVF PARTNERS L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS  AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION  DELAWARE	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER  - 0 -
	8	SHARED VOTING POWER  26,026,200*
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  26,026,200*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  26,026,200*	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  24.99%	
14	TYPE OF REPORTING PERSON  PN, IA	

\* Represents 26,026,200 ADSs (each ADS represents one Share (as defined below)). Includes 30,625 ADSs issuable upon the exercise of certain Series A Warrants (as defined below).

1	NAME OF REPORTING PERSON  BVF INC.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS  AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION  DELAWARE	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER  - 0 -
	8	SHARED VOTING POWER  26,026,200*
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  26,026,200*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  26,026,200*	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  24.99%	
14	TYPE OF REPORTING PERSON  CO	

\* Represents 26,026,200 ADSs (each ADS represents one Share (as defined below)). Includes 30,625 ADSs issuable upon the exercise of certain Series A Warrants (as defined below).

1	NAME OF REPORTING PERSON  MARK N. LAMPERT	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS  AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION  USA	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER  - 0 -
	8	SHARED VOTING POWER  26,026,200*
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  26,026,200*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  26,026,200*	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  24.99%	
14	TYPE OF REPORTING PERSON  IN	

\* Represents 26,026,200 ADSs (each ADS represents one Share (as defined below)). Includes 30,625 ADSs issuable upon the exercise of certain Series A Warrants (as defined below).

The following constitutes the Schedule 13D filed by the undersigned (the "Schedule 13D").

Item 1. Security and Issuer.

This statement relates to the Ordinary Shares, par value NIS 0.10 per share (the "Shares"), of BioLineRx Ltd., an Israeli corporation (the "Issuer") and to American Depositary Shares of the Issuer ("ADS"), each of which represents one Share. The address of the principal executive offices of the Issuer is 2 HaMa'ayan Street, Modi'in 7177871, Israel.

Item 2. Identity and Background.

(a) This statement is filed by Biotechnology Value Fund, L.P., a Delaware limited partnership ("BVF"), Biotechnology Value Fund II, L.P., a Delaware limited partnership ("BVF2"), Biotechnology Value Trading Fund OS LP ("Trading Fund OS"), a Cayman Islands Limited Partnership, BVF Partners OS Ltd. ("Partners OS"), a Cayman Islands Limited Liability Company, BVF Partners L.P., a Delaware limited partnership ("Partners"), BVF Inc., a Delaware corporation, and Mark N. Lampert. Mr. Lampert is the sole officer and director of BVF Inc.

Each of the foregoing is referred to as a "Reporting Person" and collectively as the "Reporting Persons." Each of the Reporting Persons is party to that certain Joint Filing Agreement, as further described in Item 6. Accordingly, the Reporting Persons are hereby filing a joint Schedule 13D.

(b) The business address of BVF, BVF2, Partners, BVF Inc. and Mr. Lampert is 1 Sansome Street, 30th Floor, San Francisco, California. The business address of Trading Fund OS and Partners OS is PO Box 309 Ugland House, Grand Cayman, KY1-1104, Cayman Islands.

(c) The principal business of each of BVF, BVF2, and Trading Fund OS is investing in securities. The principal business of Partners OS is serving as the general partner of Trading Fund OS. The principal business of Partners is serving as the general partner of each of BVF and BVF2, the investment manager of Trading Fund OS, the sole member of Partners OS, and the investment manager of a certain managed accounts (the "Partners Managed Accounts"). The principal business of BVF Inc. is serving as the general partner of Partners. Mr. Lampert is the sole officer and director of BVF Inc.

(d) No Reporting Person has, during the last five years, been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) No Reporting Person has, during the last five years, been party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) Mr. Lampert is a citizen of the United States of America.

Item 3. Source and Amount of Funds or Other Consideration.

The ADSs and Warrants (as defined below) purchased by each of BVF, BVF2, Trading Fund OS, and held in the Partners Managed Accounts, were purchased with working capital (which may, at any given time, include margin loans made by brokerage firms in the ordinary course of business) in open market purchases, except as otherwise noted on Schedule A.

The aggregate purchase price of the 12,129,350 ADSs beneficially owned by BVF is approximately \$11,429,316, including brokerage commissions. The aggregate purchase price of the 7,792,854 ADSs beneficially owned by BVF2 is approximately \$7,338,358, including brokerage commissions. The aggregate purchase price of the 2,167,956 ADSs beneficially owned by Trading Fund OS is approximately \$2,041,008, including brokerage commissions. The aggregate purchase price of the 3,936,040 ADSs beneficially owned by the Partners Managed Accounts is approximately \$3,666,317, including brokerage commissions.

In connection with the Subscription Agreement (as defined below), Reporting Persons purchased (i) Series A warrants to purchase an aggregate of 2,973,451 ADSs at an exercise price of \$2.00 per Share (the "Series A Warrants") and (ii) Series B warrants to purchase an aggregate of 2,973,451 ADSs at an exercise price of \$4.00 per Share (the "Series B Warrants" and with the Series A Warrants, the "Warrants"). The Warrants are subject to blocker provisions described in Item 5 and are owned by the Reporting Persons as described in Item 5.

Item 4. Purpose of Transaction

On July 26, 2017, Reporting Persons entered into a subscription agreement (the "Subscription Agreement") with the Issuer to purchase (i) 8,495,575 ADSs, (ii) 2,973,451 Series A Warrants, and (iii) Series B Warrants for an aggregate total purchase price of \$9,600,000.

Additionally, on July 26, 2017 Partners entered into a Voting and Standstill Agreement (the "Voting and Standstill Agreement") with the Issuer. Pursuant to Voting and Standstill Agreement, subject to certain conditions, the Reporting Persons have agreed to forego and to waive any and all voting rights that the Reporting Persons may have in respect of the Issuer's Shares that exceed 19.99% of the Company's total then outstanding voting power on any matter brought to a vote of the Issuer's shareholders. In addition, the Reporting Persons have agreed to limit their direct and indirect interest in the Issuer, and at no time shall the Reporting Persons have more than a 24.99% of the economic interest in the Company's voting securities, whether or not paired with a right to vote.

The foregoing description of the Subscription Agreement and the Voting and Standstill Agreement are qualified in their entirety by reference to the Subscription Agreement and the Voting and Standstill Agreement, which are attached hereto as Exhibit 99.2 and 99.3, respectively, and are incorporated herein by reference.

The Reporting Persons purchased the ADSs and Warrants based on the Reporting Persons' belief that such securities, when purchased, were undervalued and represented an attractive investment opportunity. Depending upon overall market conditions, other investment opportunities available to the Reporting Persons, and the availability of securities of the Issuer at prices that would make the purchase or sale of such securities desirable, the Reporting Persons may endeavor to increase or decrease their position in the Issuer through, among other things, the purchase or sale of securities of the Issuer on the open market or in private transactions or otherwise, on such terms and at such times as the Reporting Persons may deem advisable.

No Reporting Person has any present plan or proposal which would relate to or result in any of the matters set forth in subparagraphs (a) - (j) of Item 4 of Schedule 13D except as set forth herein or such as would occur upon or in connection with completion of, or following, any of the actions discussed herein. The Reporting Persons intend to review their investment in the Issuer on a continuing basis. Depending on various factors including, without limitation, the Issuer's financial position and investment strategy, the price levels of the securities of the Issuer, conditions in the securities markets and general economic and industry conditions, the Reporting Persons may in the future take such actions with respect to their investment in the Issuer as they deem appropriate including, without limitation, engaging in communications with management and the Board of the Issuer, engaging in discussions with stockholders of the Issuer and others about the Issuer and the Reporting Persons' investment, making proposals to the Issuer concerning changes to the capitalization, ownership structure, board structure (including board composition) or operations of the Issuer, purchasing additional securities of the Issuer, selling some or all of their securities of the Issuer, engaging in short selling of or any hedging or similar transaction with respect to the such securities, or changing their intention with respect to any and all matters referred to in Item 4.

Item 5. Interest in Securities of the Issuer.

(a) The aggregate percentages of Shares reported owned by each person named herein is based on 104,146,458 Shares, which is the number of outstanding Shares as advised by the Issuer and including the 8,495,575 ADSs issued pursuant to the Subscription Agreement and disclosed on the Issuer's Prospectus Supplement dated July 26, 2017 and filed with the Securities and Exchange Commission on July 26, 2017 and 30,625 ADSs issuable upon the exercise of certain Series A warrants.

As of the close of business on August 7, 2017, (i) BVF beneficially owned 12,129,350 Shares (represented by 12,129,350 ADSs, including 30,625 ADSs issuable upon the exercise of Series A Warrants), (ii) BVF2 beneficially owned 7,792,854 Shares (represented by 7,792,854 ADSs), (iii) Trading Fund OS beneficially owned 2,167,956 Shares (represented by 2,167,956 ADSs), and (iv) 3,936,040 Shares (represented by 3,936,040 ADSs) were held in the Partners Managed Accounts, representing percentage ownership of approximately 11.7%, 7.5%, 2.1%, and 3.8%, respectively, of the Shares outstanding.

As of the close of business on August 7, 2017, (i) BVF beneficially owned Series A Warrants to purchase 1,431,750 ADSs and Series B Warrants to purchase 1,431,750 ADSs, (ii) BVF2 beneficially owned Series A Warrants to purchase 893,040 ADSs and Series B Warrants to purchase 893,040 ADSs, (iii) Trading Fund OS beneficially owned Series A Warrants to purchase 247,807 ADSs and Series B Warrants to purchase 247,807 ADSs, and (iv) Series A Warrants to purchase 400,854 ADSs and Series B Warrants to purchase 400,854 ADSs were held in the Partners Managed Accounts. The Warrants are subject to a blocker provision that precludes the holders from exercising the Warrants to the extent that the holder and its affiliates would beneficially own (as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")) in excess of 24.99% of the Shares outstanding immediately after giving effect to such exercise. Accordingly, excluded from the Reporting Persons' beneficial ownership reported in this statement is 2,942,826 ADSs underlying the Series A Warrants and 2,973,451 ADSs underlying the Series B Warrants.

Partners OS, as the general partner of Trading Fund OS, may be deemed to beneficially own the 2,167,956 Shares (represented by 2,167,956 ADSs) beneficially owned by Trading Fund OS.

Partners, as the general partner of BVF and BVF2, the sole member of Partners OS, and the investment manager of Trading Fund OS and the Partners Managed Accounts, may be deemed to beneficially own the 26,026,200 Shares (represented by 26,026,200 ADSs, including 30,625 ADSs issuable upon the exercise of Series A Warrants), beneficially owned in the aggregate by BVF, BVF2, Trading Fund OS, and the Partners Managed Accounts, representing percentage ownership of approximately 24.99% of the Shares outstanding.

BVF Inc., as the general partner of Partners, may be deemed to beneficially own the 26,026,200 Shares (represented by 26,026,200 ADSs, including 30,625 ADSs issuable upon the exercise of Series A Warrants) beneficially owned by Partners, representing percentage ownership of approximately 24.99% of the Shares outstanding.

Mr. Lampert, as a director and officer of BVF Inc. may be deemed to beneficially own the 26,026,200 Shares (represented by 26,026,200 ADSs, including 30,625 ADSs issuable upon the exercise of Series A Warrants) beneficially owned by BVF Inc., representing percentage ownership of approximately 24.99% of the Shares outstanding.

(b) Each of BVF, BVF2 and Trading Fund OS shares with Partners voting and dispositive power over the Shares each such entity beneficially owns. Trading Fund OS, shares with Partners OS, voting and dispositive power over the Shares beneficially owned by Trading Fund OS. Partners, BVF Inc. and Mr. Lampert share voting and dispositive power over the 26,026,200 Shares they may be deemed to beneficially own with BVF, BVF2, Trading Fund OS and Partners OS.

(c) Schedule A annexed hereto lists all transactions in securities of the Issuer during the past sixty days by the Reporting Persons. All of such transactions were effected in the open market, except as otherwise noted.

(d) No person other than the Reporting Persons is known to have the right to receive, or the power to direct the receipt of dividends from, or proceeds from the sale of, the Shares.

(e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer.

On July 26, 2017, Partners entered into the Subscription Agreement with the Issuer to purchase ADSs and Warrants, as described further in Item 4.

On July 26, 2017, Partners entered into the Voting and Standstill Agreement with the Issuer where the Reporting Persons have agreed to forego and to waive certain voting rights, as described further in Item 4.

On August 7, 2017, the Reporting Persons entered into a Joint Filing Agreement in which the Reporting Persons agreed to the joint filing on behalf of each of them of statements on Schedule 13D, with respect to securities of the Issuer, to the extent required by applicable law. A copy of this agreement is attached hereto as Exhibit 99.3 hereto and is incorporated herein by reference.

Partners is the general partner of each of BVF and BVF2 pursuant to limited partnership agreements which authorize Partners, among other things, to invest the funds of BVF and BVF2 in the Shares and other securities and to vote, exercise or convert and dispose of such securities. Pursuant to such limited partnership agreements, Partners is entitled to receive fees based on assets under management and allocations based on realized and unrealized gains on such assets.

Partners is the sole member of Partners OS and the investment manager of Trading Fund OS, pursuant to an investment management agreement which authorizes Partners, among other things, to invest the funds of Trading Fund OS in the Shares and other securities and to vote, exercise or convert and dispose of such securities. Pursuant to such investment management agreement, Partners is entitled to receive fees based on assets under management and allocations based on realized and unrealized gains on such assets.

Pursuant to investment management agreements with certain of the Partners Managed Accounts, Partners and BVF Inc. have authority, among other things, to invest funds of certain of the Partners Managed Accounts in the Shares and other securities and to vote, exercise or convert and dispose of such securities. Pursuant to such investment management agreements, Partners and BVF Inc. receive fees based on realized and unrealized gains thereon.

Other than as described herein, there are no contracts, arrangements, understandings or relationships among the Reporting Persons, or between the Reporting Persons and any other person, with respect to the securities of the Issuer.

Item 7. Material to be Filed as Exhibits.

- 99.1 Subscription Agreement by and among Biotechnology Value Fund, L.P., Biotechnology Value Fund II, L.P., Biotechnology Value Trading Fund OS LP, BVF Partners OS Ltd., BVF Partners L.P through certain of its managed accounts and BioLineRx Ltd., dated July 26, 2017.
- 99.2 Voting and Standstill Agreement by and among Biotechnology Value Fund, L.P., Biotechnology Value Fund II, L.P., Biotechnology Value Trading Fund OS LP, BVF Partners OS Ltd., BVF Partners L.P through certain of its managed accounts and BioLineRx Ltd., dated July 26, 2017
- 99.3 Joint Filing Agreement by and among Biotechnology Value Fund, L.P., Biotechnology Value Fund II, L.P., Biotechnology Value Trading Fund OS LP, BVF Partners OS Ltd., BVF Partners L.P., BVF Inc. and Mark N. Lampert, dated August 7, 2017.

SIGNATURES

After reasonable inquiry and to the best of his knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

Dated: August 7, 2017

BIOTECHNOLOGY VALUE FUND, L.P.

By: BVF Partners L.P., its general partner

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert  
Mark N. Lampert  
President

BVF INC.

By: /s/ Mark N. Lampert

Mark N. Lampert  
President

/s/ Mark N. Lampert  
MARK N. LAMPERT

BIOTECHNOLOGY VALUE FUND II, L.P.

By: BVF Partners L.P., its general partner

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert  
Mark N. Lampert  
President

BVF PARTNERS L.P.

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert  
Mark N. Lampert  
President

BVF PARTNERS OS LTD.

By: BVF Partners L.P., its sole member

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert  
Mark N. Lampert  
President

BIOTECHNOLOGY VALUE TRADING FUND OS LP

By: BVF Partners L.P., its investment manager

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert  
Mark N. Lampert  
President

**SCHEDULE A****Transactions in the Securities of the Issuer During the Past Sixty Days**

<u>Class of Security</u>	<u>Securities Purchased / (Sold)</u>	<u>Price (\$)</u>	<u>Date of Purchase / Sale</u>
<b><u>BIOTECHNOLOGY VALUE FUND, L.P.</u></b>			
ADSs*	4,090,714	+	07/26/2017
Series A Warrant**	1,431,750	+	07/26/2017
Series B Warrant**	1,431,750	+	07/26/2017

**BIOTECHNOLOGY VALUE FUND II, L.P.**

ADSs*	2,551,544	+	07/26/2017
Series A Warrant**	893,040	+	07/26/2017
Series B Warrant**	893,040	+	07/26/2017

**BIOTECHNOLOGY VALUE TRADING FUND OS LP**

ADSs*	708,020	+	07/26/2017
Series A Warrant**	247,807	+	07/26/2017
Series B Warrant**	247,807	+	07/26/2017

**BVF PARTNERS L.P. (THROUGH THE PARTNERS MANAGED ACCOUNTS)**

ADSs*	1,145,297	+	07/26/2017
Series A Warrant**	400,854	+	07/26/2017
Series B Warrant**	400,854	+	07/26/2017

\* Each ADS represents one Share.

\*\* Each Warrant entitles to the Reporting Person to purchase ADSs representing an equal number of Shares, at an exercise price of \$2.00 for Series A Warrants and at an exercise price of \$4.00 for Series B Warrants.

† Purchases made pursuant to the Subscription Agreement.

## Subscription Agreement

BioLineRx Ltd.  
Modi'in Technology Park  
2 HaMa'ayan Street  
Modi'in 7177871, Israel

Ladies and Gentlemen:

Pursuant to the terms and conditions of this Subscription Agreement (this "Agreement"), the undersigned investors (each, an "Investor") hereby confirms and agrees with BioLineRx Ltd., a corporation organized under the laws of the State of Israel (the "Company"), as follows:

1. At the Closing (as defined below) and subject to the terms and conditions hereof, the Investors will purchase from the Company and the Company will issue and sell to the Investors for a total purchase price of \$9,600,000: (i) 8,495,575 American Depositary Shares ("ADSs"), each representing one of the Company's ordinary shares, par value NIS 0.10 ("Ordinary Shares"); (ii) 2,973,451 Series A warrants to purchase an aggregate of 2,973,451 ADSs at an exercise price of \$2.00 per ADS (the "Series A Warrants"); (iii) 2,973,451 Series B warrants to purchase an aggregate of 2,973,451 ADSs at an exercise price of \$4.00 per ADS (the "Series B Warrants" and together with the Series A Warrants, the "Warrants"); and (iv) an aggregate of 5,946,902 ADSs representing 5,946,902 Ordinary Shares issuable upon exercise of the Warrants (the "Warrant ADSs" and together with the ADSs and the Warrants, the "Offered Securities"). The allocation of the Offered Securities among the Investors shall be as set forth on Exhibit A attached hereto. The obligations of the Investors under this Agreement shall be several, but not joint.

2. The closing (the "Closing") is expected to occur on or about July 31, 2017 (the "Closing Date"), subject to the satisfaction of certain closing conditions set forth herein. The Company is hereby deemed to make the representations and warranties set forth in Annex A hereto to the Investors, which shall be true and correct in all material respects (except for those representations and warranties that are by their terms qualified as to materiality, which shall be accurate in all respects) as of the date hereof and on the Closing Date.

3. The offer and sale of the Offered Securities (the "Offering") is being made pursuant to (i) an effective registration statement (the "Registration Statement") on Form F-3 (File No. 333-205700), including the prospectus contained therein (the "Base Prospectus"), filed with the Securities and Exchange Commission (the "Commission") on October 16, 2015, and (ii) a prospectus supplement (the "Prospectus Supplement" and, together with the Base Prospectus, the "Prospectus") containing certain supplemental information regarding the Offered Securities and terms of the Offering that has been delivered to the Investor on or prior to the date hereof and will be filed with the Commission in accordance with applicable securities laws. The Prospectus, together with the documents incorporated by reference therein, is also referred to herein as the "General Disclosure Package."

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4. On the Closing Date, the Company shall (i) cause The Bank of New York Mellon, as depository for the ADSs (the “Depository”), to deliver to each Investor the ADSs set forth on Exhibit A via the Depository Trust Company’s (“DTC”) Deposit and Withdrawal at Custodian system via the DTC instructions to be provided in writing by the Investor to the Company no later than two business days prior to the Closing Date and (ii) deliver to each Investor one or more certificates representing the Warrants, registered in such name(s) as the Investor shall provide to the Company in writing no later than two business days prior to the Closing Date. The Offered Securities shall be unlegended and free of any resale restrictions.

5. The Company’s obligation to issue and sell the Offered Securities to the Investors shall be subject to consent of the Tel Aviv Stock Exchange (the “TASE”) to the issuance of the Offered Securities, the receipt by the Company of the purchase price for the Offered Securities being purchased hereunder as set forth on the signature page and the accuracy of the representations and warranties made by the Investors herein and the fulfillment of those undertakings herein of the Investors to be fulfilled prior to the Closing Date. Each Investor’s obligation to purchase the Offered Securities shall be subject to the consent of the TASE to the issuance of the Offered Securities, the accuracy in all material respects of the representations and warranties made by the Company as of the date hereof and as of the Closing (except for those representations and warranties that are by their terms qualified as to materiality, which shall be accurate in all respects) and the fulfillment of those undertakings of the Company to be fulfilled prior to the Closing.

6. Each Investor represents that (i) it has had full access to the General Disclosure Package prior to or in connection with its receipt of this Agreement; and (ii) it is acquiring the Offered Securities for its own account, or an account over which it has investment discretion, and does not have any agreement or understanding, directly or indirectly, with any person or entity to distribute any of the Offered Securities. The Investor represents that it has had an opportunity to ask questions of and receive answers from the officers of the Company concerning the financial condition and business of the Company and others matters related to an investment in the Offered Securities. Neither such inquiries nor any other due diligence investigations conducted by the Investor or its representatives shall modify, amend or affect the Investor’s right to rely on the Company’s representations and warranties contained in Annex A hereto.

7. Each Investor has the requisite power and authority to enter into this Agreement and to consummate the transactions contemplated hereby.

8. Subject to the accuracy of the Company’s representations and warranties set forth on Annex A, each Investor represents that (i) it has had no material relationship within the past three years with the Company or persons known to it to be affiliates of the Company, (ii) it is not a, and it has no direct or indirect affiliation or association with any, Financial Industry Regulatory Authority, Inc. (“FINRA”) member or an Associated Person (as such term is defined under FINRA Membership and Registration Rules Section 1011(b)) as of the date hereof, and (iii) neither it nor any group of investors (as identified in a public filing made with the Commission) of which it is a member, acquired, or obtained the right to acquire, 25% or more of the Ordinary Shares (or securities convertible or exercisable for Ordinary Shares) or 20% or more of the voting power of the Company on a post-transaction basis, in each case giving effect to contractual limits on the Investor’s ability to acquire beneficial ownership of the Company’s securities as set forth in the Voting and Standstill Agreement, dated as of the date hereof, by and between the Company and the Investors.

**9.** Each Investor represents that neither the Investor nor any person acting on behalf of, or pursuant to any understanding with or based upon any information received from, the Investor has, directly or indirectly, as of the date of this Agreement, engaged in any transactions in the securities of the Company or has violated its obligations of confidentiality with respect to the Offering since the time that the Investor and the Company were first in contact with respect to the transactions contemplated hereby. The Investor covenants that neither it, nor any person acting on behalf of, or pursuant to any understanding with or based upon any information received from, the Investor will engage in any transactions in the securities of the Company prior to the time that the transactions contemplated by this Agreement are publicly disclosed.

**10.** This Agreement will involve no obligation or commitment of any kind until this Agreement is accepted and countersigned by or on behalf of the Company. Each Investor acknowledges and agrees that the Investor's receipt of the Company's counterpart to this Agreement shall constitute written confirmation of the Company's sale of the Offered Securities to the Investor.

**11.** The Company shall by 9:30 a.m. (New York City time) on the business day immediately following the date hereof, issue a press release disclosing the material terms of the Offering contemplated hereby, and file a Report on Form 6-K, including this Agreement and any exhibits hereto, with the Commission. The Company and the Investor shall consult with each other in issuing any other press releases with respect to the transactions contemplated hereby, and neither the Company nor the Investor shall issue any such press release nor otherwise make any such public statement without the prior consent of the Company, with respect to any press release of the Investor, or without the prior consent of the Investor, with respect to any press release of the Company, which consent shall not unreasonably be withheld or delayed, except if such press release is required by law or regulation, in which case the releasing party shall promptly provide the other party or parties with prior notice, if allowed by law or regulation, of such press release.

**12.** On or prior to the Closing, the Company shall deliver or cause to be delivered to the Investor the following:

- (i) this Agreement duly executed by the Company;
- (ii) the Warrants duly executed by the Company;
- (iii) opinions of the Company's Israeli and U.S. legal counsels, respectively, in each case reasonably satisfactory to counsel to the Investor, dated as of the Closing Date; and
- (iv) the Prospectus (which may be delivered in accordance with Rule 172 under the Securities Act of 1933, as amended (the "Securities Act")).

### 13. Indemnification

(i) The Company agrees to indemnify and hold harmless each Investor and any affiliate of the Investor, including a transferee who is an affiliate of the Investor, and any person who controls the Investor or any affiliate of the Investor within the meaning of Section 15 of the Securities Act or Section 20 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) (collectively, “Investor/Affiliate”), against any losses, claims, damages, liabilities or expenses, joint or several, to which the Investor or Investor/Affiliates may become subject, under the Securities Act, the Exchange Act, or any other federal or state statutory law or regulation, or at common law or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of the Company), insofar as such losses, claims, damages, liabilities or expenses (or actions in respect thereof as contemplated below) arise out of or are based upon (a) any untrue statement or alleged untrue statement of any material fact contained in the Registration Statement, including the Prospectus, financial statements and schedules, and all other documents or information filed as or deemed to be a part thereof, at the time of the Closing, or the omission or alleged omission to state in any of them a material fact required to be stated therein or necessary to make the statements therein not misleading in light of the circumstances under which they were made, or (b) in whole or in part any inaccuracy in the representations or warranties of the Company contained in this Agreement, or any failure of the Company to perform its obligations hereunder or under law, and will promptly reimburse each Investor and each Investor/Affiliate for any legal and other expenses as such expenses are reasonably incurred by such Investor or such Investor/Affiliate in connection with investigating, defending or preparing to defend, settling, compromising or paying any such loss, claim, damage, liability, expense or action; provided, however, that the Company will not be liable for amounts paid in settlement of any such loss, claim, damage, liability or action if such settlement is effected without the consent of the Company, which consent shall not be unreasonably withheld, and the Company will not be liable in any such case to the extent that any such loss, claim, damage, liability or expense arises out of or is based upon the inaccuracy of any representation or warranty made by the Investor herein.

(ii) Promptly after receipt by an indemnified party under this Section 13 of notice of the threat or commencement of any action, the Investor or Investor/Affiliates will, if a claim in respect thereof is to be made against the Company under this Section 13, promptly notify the Company in writing thereof, but the omission to notify the Company will not relieve it from any liability that it may have to any indemnified party for contribution or otherwise under the indemnity agreement contained in this Section 13 to the extent it is not prejudiced as a result of such failure. In case any third party action is brought against the Investor or Investor/Affiliates and such party seeks or intends to seek indemnity from the Company, the Company will be entitled to participate in, and, to the extent that it may wish, to assume the defense thereof with counsel reasonably satisfactory to such indemnified party; provided, however, if the defendants in any such action include both the indemnified party, and the Company and the indemnified party shall have reasonably concluded, based on an opinion of counsel reasonably satisfactory to the Company, that there may be a conflict of interest between the positions of the Company and the indemnified party in conducting the defense of any such action or that there may be legal defenses available to it and/or other indemnified parties that are different from or additional to those available to the Company, the indemnified party or parties shall have the right to select separate counsel to assume such legal defenses and to otherwise participate in the defense of such action on behalf of such indemnified party or parties. Upon receipt of notice from the indemnifying party to the Company of its election to assume the defense of such action and approval by the indemnified party of counsel, the Company will not be liable to such indemnified party under this Section 13 for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof unless (a) the indemnified party shall have employed such counsel in connection with the assumption of legal defenses in accordance with the proviso to the preceding sentence (it being understood, however, that the Company shall not be liable for the expenses of more than one separate counsel, reasonably satisfactory to the Company, representing all of the indemnified parties who are parties to such action) or (b) the Company shall not have employed counsel reasonably satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of commencement of action, in each of which cases the reasonable fees and expenses of counsel shall be at the expense of the Company. The Company shall not be liable for any settlement of any action without its written consent. In no event shall the Company be liable in respect of any amounts paid in settlement of any action unless the Company shall have approved in writing the terms of such settlement; provided that such consent shall not be unreasonably withheld. The Company shall not, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened proceeding in respect of which any indemnified party is or could have been a party and indemnification could have been sought hereunder by such indemnified party from all liability on claims that are the subject matter of such proceeding.

(iii) If the indemnification provided for in this Section 13 is required by its terms but is for any reason held to be unavailable to or otherwise insufficient to hold harmless an indemnified party under paragraphs (i) or (ii) of this Section 13 in respect to any losses, claims, damages, liabilities or expenses referred to herein, then the Company shall contribute to the amount paid or payable by such indemnified party as a result of any losses, claims, damages, liabilities or expenses referred to herein (a) in such proportion as is appropriate to reflect the relative benefits received by the Company and such indemnified party from the transactions contemplated hereby or (b) if the allocation provided by clause (a) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (a) above but the relative fault of the Company and the indemnified party in connection with the statements or omissions or inaccuracies in the representations and warranties in this Agreement and/or the Registration Statement that resulted in such losses, claims, damages, liabilities or expenses, as well as any other relevant equitable considerations. The amount paid or payable by a party as a result of the losses, claims, damages, liabilities and expenses referred to above shall be deemed to include, subject to the limitations set forth in paragraph (ii) of this Section 13, any legal or other fees or expenses reasonably incurred by such party in connection with investigating or defending any action or claim. The provisions set forth in paragraph (ii) of this Section 13 with respect to the notice of the threat or commencement of any threat or action shall apply if a claim for contribution is to be made under this paragraph (iii); provided, however, that no additional notice shall be required with respect to any threat or action for which notice has been given under paragraph (ii) for purposes of indemnification.

**14.** The Company agrees, from and after the Closing Date, to use its best efforts to maintain (i) a depository for the ADSs, (ii) the listing of ADSs for trading on a National Securities Exchange (as defined in the Exchange Act), (iii) the listing of the Ordinary Shares for trading on the TASE and (iv) a transfer agent and, if necessary under the jurisdiction of incorporation of the Company, a registrar for the Ordinary Shares. The Company shall comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules and regulations of the National Securities Exchange(s) on which the ADSs are listed for trading and the TASE. Neither the Company nor any of its subsidiaries shall take any action that would reasonably be expected to result in the delisting or suspension of the ADSs on the National Securities Exchange(s) on which the ADSs are listed for trading or the Ordinary Shares on the TASE.

**15.** Each of the Company and each Investor has determined that the Investors will not (individually or collectively) be an "affiliate" (as such term is defined in Rule 405 promulgated under the Securities Act) of the Company following the consummation of the transactions contemplated by this Agreement. The Company agrees not to take any action inconsistent with the foregoing.

**16.** The Company shall not sell, offer for sale or solicit offers to buy or otherwise negotiate in respect of any security (as defined in Section 2 of the Securities Act) that would be integrated with the offer or sale of the Offered Securities for purposes of the rules and regulations of the NASDAQ Capital Market such that it would require shareholder approval prior to the closing of such other transaction unless shareholder approval is obtained before the closing of such subsequent transaction.

**17.** Notwithstanding any investigation made by any party to this Agreement, all covenants and agreements made by the Company and the Investor herein shall survive the execution of this Agreement, the delivery to the Investor of the Offered Securities being purchased and the payment therefor.

**18.** Each of the Company and the Investor will bear its own costs and expenses (including legal and accounting fees and expenses) incurred in connection with this Agreement and the transactions contemplated hereby, provided that the Company will reimburse the Investor for its fees and expenses incurred in connection with the transactions contemplated under this Agreement, not to exceed \$50,000.

**19.** All notices, requests, consents and other communications hereunder shall be in writing, shall be mailed (A) if within the United States by first-class registered or certified airmail, or nationally recognized overnight express courier, postage prepaid, or by facsimile, or (B) if delivered from outside the United States, by International Federal Express or facsimile, and shall be deemed given (i) if delivered by first-class registered or certified domestic mail, three business days after so mailed, (ii) if delivered by a nationally recognized overnight carrier, one business day after so mailed, (iii) if delivered by International Federal Express, two business days after so mailed, or (iv) if delivered by facsimile, upon electronic confirmation of receipt and shall be delivered as addressed as follows:

if to the Company, to:

BioLineRx Ltd.  
Modi'in Technology Park  
2 HaMa'ayan Street  
Modi'in 7177871, Israel  
+972 (8) 642-9100  
Attention: Philip Serlin, Chief Executive Officer  
Facsimile: +972 (8) 642-9101  
E-mail: [phils@biolinerx.com](mailto:phils@biolinerx.com)

with a copy to:

Morrison & Foerster LLP  
250 West 55th Street  
New York, New York 10019  
+1 (212) 468-8000  
Attention: Anna Pinedo  
Facsimile: +1 (212) 468-7900  
E-mail: [APinedo@mofocom](mailto:APinedo@mofocom)

if to the Investors, to:

BVF Partners LP  
1 Sansome Street, 30th Floor  
San Francisco, California 94104  
+1 (415) 525-8890  
Attention: Mark N. Lampert,  
President of BVF Inc., General Partner of BVF Partners L.P.  
Facsimile: +1 (415) 288-2394  
E-mail: [Lampert@bvflp.com](mailto:Lampert@bvflp.com)

with a copy to:

Gibson, Dunn & Crutcher LLP  
555 Mission Street, Suite 300  
San Francisco, California 94105-0921  
+1 (415) 393-8200  
Attention: Ryan A. Murr  
Facsimile: +1 (415) 374-8430  
E-mail: [RMurr@gibsondunn.com](mailto:RMurr@gibsondunn.com)

**20.** This Agreement is to be construed in accordance with and governed by the federal law of the United States of America and the internal laws of the State of New York without giving effect to any choice of law rule that would cause the application of the laws of any jurisdiction other than the internal laws of the State of New York to the rights and duties of the parties. Each of the Company and the Investor submits to the nonexclusive jurisdiction of the United States District Court for the Southern District of New York and of any New York State court sitting in New York City for purposes of all legal proceedings arising out of or relating to this Agreement and the transactions contemplated hereby. Each of the Company and the Investor irrevocably waives, to the fullest extent permitted by law, any objection that it may now or hereafter have to the laying of the venue of any such proceeding brought in such a court and any claim that any such proceeding brought in such a court has been brought in an inconvenient forum.

21. This Agreement and the instruments referenced herein contain the entire understanding of the parties with respect to the matters covered herein and therein and, except as specifically set forth herein or therein, neither the Company nor the Investor makes any representation, warranty, covenant or undertaking with respect to such matters. Each party expressly represents and warrants that it is not relying on any oral or written representations, warranties, covenants or agreements outside of this Agreement.

22. This Agreement may not be modified or amended except pursuant to an instrument in writing signed by the Company and the Investor. This Agreement may be executed in one or more counterparts, each of which will constitute an original, but all of which, when taken together, will constitute but one instrument, and signatures may be delivered by facsimile or by e-mail delivery of a “.pdf” format data file. In case any provision contained in this Agreement should be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby.

*[Signature page follows]*

SUBSCRIPTION AGREEMENT

Agreed and Accepted July 26, 2017:

BioLINERx LTD.

By: /s/ Philip Serlin  
Name: Philip Serlin  
Title: Chief Executive Officer

BIOTECHNOLOGY VALUE FUND, L.P.

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President of BVF, Inc., itself GP of BVF Partners L.P., itself GP of Biotechnology Value Fund, L.P.

BIOTECHNOLOGY VALUE FUND II, L.P.

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President of BVF, Inc., itself GP of BVF Partners L.P., itself GP of Biotechnology Value Fund II, L.P.

BIOTECHNOLOGY VALUE TRADING FUND OS, L.P.

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President of BVF, Inc., itself GP of BVF Partners L.P., itself Sole Member of BVF Partners OS, Ltd., itself GP of Biotechnology Value Trading Fund OS, L.P.

INVESTMENT 10, LLC

By: /s/ Mark Lampert

Name: Mark Lampert

Title: President of BVF, Inc., itself GP of BVF Partners L.P., itself the investment advisor of  
Investment 10, LLC

MSI BVF SPV, L.L.C.

By: /s/ Mark Lampert

Name: Mark Lampert

Title: President of BVF, Inc., itself GP of BVF Partners L.P., itself attorney-in-fact for  
MSI BVF SPV, L.L.C.

Aggregate Purchase Price: \$9,599,999.75

*Sale of the Offered Securities purchased hereunder is made pursuant to the Prospectus.*

### Company Representations and Warranties

The Company hereby represents and warrants to, and covenants with, the Investor as of the date hereof and as of the Closing as follows:

1. **Incorporation and Good Standing of the Company and Its Subsidiaries.** The Company has been duly organized and is validly existing as a corporation and is in good standing under the laws of the State of Israel as of the date hereof, and is duly qualified to do business and as in good standing in each other jurisdiction in which its ownership or lease of property or the conduct of business requires such qualification, except where the failure to qualify, singularly or in the aggregate, would not have or reasonably be expected to result in a material adverse effect on the business, properties, operations, condition (financial or otherwise) or results of operations of the Company taken as a whole, or in its ability to perform its obligations under this Agreement (a “**Material Adverse Effect**”). All direct and indirect subsidiaries of the Company (“**Subsidiaries**”) are duly organized and in good standing under the laws of the place of organization or incorporation, and each Subsidiary is in good standing in each jurisdiction in which its ownership or lease of property or the conduct of business requires such qualification, except where the failure to qualify would not have a Material Adverse Effect on the assets, business or operations of the Company taken as a whole. The Company’s ownership and control of each Subsidiary is as described in the Registration Statement, the General Disclosure Package and the Prospectus. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, the Company has all requisite corporate power and authority, and has all necessary authorizations, approvals, orders, licenses, certificates and permits of and from all governmental regulatory officials and bodies that it needs as of the date hereof to conduct its business purpose as described in the Prospectus, except where the failure to have any such authorization, approval, order, license, certificate or permit would not have a Material Adverse Effect.

2. **Filing of Registration Statement.** The Company has prepared and filed with the Commission a shelf registration statement, and an amendment or amendments thereto, on Form F-3 (File No. 333-205700), including any related prospectus or prospectuses, for the registration of the Offered Securities under the Securities Act, which registration statement and amendment or amendments have been prepared by the Company in all material respects in conformity with the requirements of the Securities Act and the rules and regulations of the Commission under the Securities Act (the “**Regulations**”) and will contain all material statements that are required to be stated therein in accordance with the Securities Act and the Regulations. The Offered Securities are being issued pursuant to the Registration Statement and the issuance of the Offered Securities will be registered by the Company pursuant to the Securities Act. The Registration Statement was declared effective by the Commission on October 16, 2015. Neither the Commission nor, to the Company’s knowledge, any state or other regulatory authority has issued any order preventing or suspending the use of the Registration Statement or the Prospectus or has instituted or, to the Company’s knowledge, threatened to institute, any proceedings with respect to such an order. The Company has complied with each request (if any) from the Commission, or other authority, for additional information. Neither the Registration Statement nor any amendment thereto, at each time of effectiveness, as of the date of this Agreement, contained, contains or will contain any untrue statement of a material fact or omitted, omits or will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. Since January 1, 2016, the Company has timely made all filings with the Commission required under the Exchange Act.

3. Authorized Capital; Options, etc. All issued and outstanding securities of the Company issued prior to the transactions contemplated by this Agreement have been duly authorized and validly issued and are fully paid and non-assessable; the holders thereof have no rights of rescission with respect thereto, and are not subject to personal liability by reason of being such holders; and none of such securities were issued in violation of the preemptive rights of any holders of any security of the Company or similar contractual rights granted by the Company. The authorized Ordinary Shares and the ADSs representing Ordinary Shares conform in all material respects to all statements relating thereto contained in the Registration Statement, the General Disclosure Package and the Prospectus. The offers and sales of the outstanding Ordinary Shares and the ADSs representing Ordinary Shares were at all relevant times either registered under the Securities Act and the applicable state securities or “blue sky” laws or, based in part on the representations and warranties of the purchasers of such shares, exempt from such registration requirements. Except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, no holders of any securities of the Company or any rights exercisable for or convertible or exchangeable into securities of the Company have the right to require the Company to register any such securities of the Company under the Securities Act or to include any such securities in a registration statement to be filed by the Company.

4. Authorization of the Offered Securities. The Offered Securities and Ordinary Shares represented thereby have been duly authorized for issuance and sale pursuant to this Agreement and, when issued and delivered by the Company pursuant to this Agreement and, with respect to the Warrant ADSs, upon payment of the exercise price pursuant to the terms of the Warrants, will be validly issued, fully paid and non-assessable, and free and clear of all liens imposed by the Company; the holders thereof are not and will not be subject to personal liability by reason of being such holders; except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, the Offered Securities are not and will not be subject to the preemptive rights of any holders of any security of the Company or similar contractual rights granted by the Company; and all corporate action required to be taken for the authorization, issuance and sale of the Offered Securities has been duly and validly taken. The Offered Securities conform in all material respects to all statements with respect thereto contained in the Registration Statement, the General Disclosure Package and the Prospectus.

5. Validity and Binding Effect of the Agreements. The Company has all corporate power and authority to enter into this Agreement and to carry out the provisions and conditions hereof, and all consents, authorizations, approvals and orders required in connection therewith have been obtained. No consent, authorization or order of, and no filing with, any court, government agency or other body is required for the valid issuance, sale and delivery of the Offered Securities and the consummation of the transactions and agreements contemplated by this Agreement and as contemplated by the Registration Statement, the General Disclosure Package and the Prospectus, except with respect to applicable Israeli securities laws, federal and state securities laws and the rules and regulations of FINRA. This Agreement has been duly and validly authorized by the Company, and, when executed and delivered, will constitute the valid and binding agreement of the Company, enforceable against the Company in accordance with its terms, except: (i) as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting creditors' rights generally; (ii) as enforceability of any indemnification or contribution provision may be limited under the federal and state securities laws; (iii) that the remedy of specific performance and injunctive and other forms of equitable relief may be subject to the equitable defenses and to the discretion of the court before which any proceeding therefor may be brought; (iv) as such enforceability may be limited by an implied covenant of good faith and fair dealing; and (v) as such enforceability may be limited by the effects of the possible judicial application of foreign laws or foreign governmental or judicial action affecting creditors' rights. The limitations set forth in Section 1(j) of the Warrants limiting the ability of the Investors to exercise the Warrants above the "Beneficial Ownership Limitation" (as defined therein) are effective under applicable law so as to prevent the Investors from being deemed to be the beneficial holder of any underlying securities that would be in excess of the applicable Beneficial Ownership Limitation.

6. No Defaults; Violations. No material default exists in the due performance and observance of any term, covenant or condition of any material license, contract, indenture, mortgage, deed of trust, note, loan or credit agreement, or any other agreement or instrument evidencing an obligation for borrowed money, or any other material agreement or instrument to which the Company is a party or by which the Company may be bound or to which any of the properties or assets of the Company is subject, and, to the Company's knowledge, no event has occurred that, with the lapse of time or the giving of notice, or both, would constitute a default thereunder, except for any such default that would not have a Material Adverse Effect on the Company. Performance by the Company of the material provisions of such agreements or instruments will not result in a violation of any existing applicable law, rule, regulation, judgment, order or decree of any governmental agency or court, domestic or foreign, having jurisdiction over the Company or any of its assets or businesses (each, a "Governmental Entity"), including, without limitation, those relating to environmental laws and regulations except for any such violation that would not have a Material Adverse Effect. The Company is not in violation of any term or provision of the Company's Articles of Incorporation (as the same may be amended or restated from time to time, the "Charter") or bylaws, or in material violation of any franchise, license, permit, applicable law, rule, regulation, judgment or decree of any Governmental Entity. The execution, delivery and performance by the Company of this Agreement and all ancillary documents, the consummation by the Company of the transactions herein and therein contemplated and the compliance by the Company with the terms hereof and thereof do not and will not, with or without the giving of notice or the lapse of time or both: (i) result in a material breach of, or conflict with any of the terms and provisions of, or constitute a material default under, or result in the creation, modification, termination or imposition of any lien, charge or encumbrance upon any property or assets of the Company pursuant to the terms of any agreement or instrument to which the Company is a party; (ii) result in any violation of the provisions of the Charter or the bylaws of the Company; or (iii) violate any existing applicable law, rule, regulation, judgment, order or decree of any Governmental Entity as of the date hereof (including, without limitation, those promulgated by the Food and Drug Administration of the U.S. Department of Health and Human Services (the "FDA") or by any foreign, federal, state or local regulatory authority performing functions similar to those performed by the FDA).

7. Independent Accountants. To the knowledge of the Company, Kesselman & Kesselman, Certified Public Accountants (Isr.), a member of PricewaterhouseCoopers International Limited, independent registered public accounting firm (the "Auditor"), whose report is filed with the Commission as part of the Registration Statement, is an independent registered public accounting firm as required by the Securities Act and the Regulations and the Public Company Accounting Oversight Board. The Auditor has not, during the periods covered by the financial statements included in the Registration Statement, the General Disclosure Package and the Prospectus, provided to the Company any non-audit services, as such term is used in Section 10A(g) of the Exchange Act.

8. Contracts. The material contracts to which the Company is a party that are filed pursuant to the Exchange Act with the Commission by the Company have been duly and validly authorized, executed and delivered by the Company and constitute the legal, valid and binding agreements of the Company, enforceable by and against it in accordance with their respective terms, except as such enforceability may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws relating to enforcement of creditors' rights generally, and general equitable principles relating to the availability of remedies, and except as rights to indemnity or contribution may be limited by federal or state securities laws and the public policy underlying such laws.

9. Litigation; Governmental Proceedings. There is no action, suit, proceeding, inquiry, arbitration, investigation, litigation or governmental proceeding pending or, to the Company's knowledge, threatened against, or involving the Company or, to the Company's knowledge, any executive officer or director (in their capacity as such) which is required to be disclosed in the Registration Statement, the General Disclosure Package and the Prospectus or in connection with the listing of the Offered Securities on the Nasdaq Capital Market and on the Tel Aviv Stock Exchange that has not been disclosed.

10. No Material Adverse Change. Since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package and the Prospectus, except as otherwise specifically stated therein: (i) the Company has not incurred any material liabilities or obligations, direct or contingent, or entered into any material transactions other than in the ordinary course of business; (ii) the Company has not declared or paid any dividends or made any distribution of any kind with respect to its capital stock; (iii) there has not been any change in the capital stock of the Company (other than a change in the number of outstanding shares of common stock due to the issuance of shares upon the exercise of outstanding options or warrants or the issuance of restricted stock awards or restricted stock units under the Company's existing stock awards plan, or any new grants thereof in the ordinary course of business); (iv) there has not been any material change in the Company's long-term or short-term debt; and (v) there has not been the occurrence of any Material Adverse Effect.

11. Intellectual Property. The Company and each of its Subsidiaries owns or possesses or has valid rights to use all patents, patent applications, trademarks, service marks, trade names, trademark registrations, service mark registrations, copyrights, licenses, inventions, trade secrets and similar rights ("Intellectual Property Rights") necessary for the conduct of the business of the Company and its Subsidiaries as currently carried on and as described in the Registration Statement, the General Disclosure Package and the Prospectus. To the knowledge of the Company, no action or use by the Company or any of its Subsidiaries necessary for the conduct of its business as currently carried on and as described in the Registration Statement and the Prospectus will involve or give rise to any infringement of, or license or similar fees for, any Intellectual Property Rights of others. Neither the Company nor any of its Subsidiaries has received any notice alleging any such infringement, fee or conflict with asserted Intellectual Property Rights of others. Except as would not reasonably be expected to result, individually or in the aggregate, in a Material Adverse Effect (i) to the knowledge of the Company, there is no infringement, misappropriation or violation by third parties of any of the Intellectual Property Rights owned by the Company; (ii) there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others challenging the rights of the Company in or to any such Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (iii) the Intellectual Property Rights owned by the Company and, to the knowledge of the Company, the Intellectual Property Rights licensed to the Company have not been adjudged by a court of competent jurisdiction invalid or unenforceable, in whole or in part, and there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (iv) there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others that the Company infringes, misappropriates or otherwise violates any Intellectual Property Rights or other proprietary rights of others, the Company has not received any written notice of such claim and the Company is unaware of any other facts which would form a reasonable basis for any such claim; and (v) to the Company's knowledge, no employee of the Company is in or has ever been in violation in any material respect of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment with the Company, or actions undertaken by the employee while employed with the Company. To the Company's knowledge, all material technical information developed by and belonging to the Company which has not been patented has been kept confidential. The Company is not a party to or bound by any options, licenses or agreements with respect to the Intellectual Property Rights of any other person or entity that are required to be set forth in the Registration Statement, the General Disclosure Package and the Prospectus and are not described therein. The Registration Statement, the General Disclosure Package and the Prospectus contain in all material respects the same description of the matters set forth in the preceding sentence. None of the technology employed by the Company has been obtained or is being used by the Company in violation of any contractual obligation binding on the Company or, to the Company's knowledge, any of its officers, directors or employees, or otherwise in violation of the rights of any persons.

12. Taxes. Each of the Company and its Subsidiaries has filed all returns (as hereinafter defined) required to be filed with taxing authorities prior to the date hereof or has duly obtained extensions of time for the filing thereof. Each of the Company and its Subsidiaries has paid all taxes (as hereinafter defined) shown as due on such returns that were filed and has paid all taxes imposed on or assessed against the Company or such respective Subsidiary. The provisions for taxes payable, if any, shown on the financial statements filed with or as part of the Registration Statement are sufficient for all accrued and unpaid taxes, whether or not disputed, and for all periods to and including the dates of such consolidated financial statements. There are (i) no issues that have been raised (and are currently pending) by any taxing authority in connection with any of the returns or taxes asserted as due from the Company or its Subsidiaries, and (ii) no waivers of statutes of limitation with respect to the returns or collection of taxes that have been given by or requested from the Company or its Subsidiaries. The term "taxes" mean all federal, state, local, foreign and other net income, gross income, gross receipts, sales, use, ad valorem, transfer, franchise, profits, license, lease, service, service use, withholding, payroll, employment, excise, severance, stamp, occupation, premium, property, windfall profits, customs, duties or other taxes, fees, assessments or charges of any kind whatever, together with any interest and any penalties, additions to tax or additional amounts with respect thereto. The term "returns" means all returns, declarations, reports, statements and other documents required to be filed in respect to taxes.

13. No Investment Company Status. The Company is not, and after receipt of payment for the Offered Securities and after application of the net proceeds therefrom as described in the Prospectus, will not be, an “investment company” as defined in the Investment Company Act of 1940, as amended.

14. Insurance. The Company carries or is entitled to the benefits of insurance, with reputable insurers, in such amounts and covering such risks which the Company believes are adequate, and all such insurance is in full force and effect. The Company has no reason to believe that it will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not result in a Material Adverse Effect.

15. Price of ADSs and Warrants. The Company has not taken and will not take, directly or indirectly, any action which constitutes, was designed to, or that would reasonably be expected to cause or result in, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Offered Securities. The Company will take reasonable best efforts to cause its officers and directors not to take, directly or indirectly, any action which is designed to or which has constituted or which would be expected to cause or result in stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Offered Securities.

16. Use of Proceeds. The Company shall use the proceeds from the sale of the Offered Securities as described under “Use of Proceeds” in the Prospectus.

17. Compliance with Laws. The Company: (i) is and at all times has been in compliance with all statutes, rules, or regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product manufactured or distributed by the Company (“Applicable Laws”), except as could not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect; (ii) has not received any FDA Form 483, notice of adverse finding, warning letter, untitled letter or other correspondence or notice from the FDA or any other governmental authority alleging or asserting noncompliance with any Applicable Laws or any licenses, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws (“Authorizations”); (iii) possesses all material Authorizations and such Authorizations are valid and in full force and effect and are not in material violation of any term of any such Authorizations; (iv) has not received notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any governmental authority or third party alleging that any product operation or activity is in violation of any Applicable Laws or Authorizations and has no knowledge that any such governmental authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; (v) has not received notice that any governmental authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any Authorizations and has no knowledge that any such governmental authority is considering such action; and (vi) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and correct on the date filed (or were corrected or supplemented by a subsequent submission).

18. Financial Statements, etc. The financial statements included in Registration Statement, the General Disclosure Package and the Prospectus, including the notes thereto and supporting schedules, fairly present the financial position and results of operations, shareholders' equity and cash flows of the Company and its Subsidiaries, on a consolidated basis, at the dates and for the periods to which they apply; and such financial statements have been prepared in conformity with the International Financial Reporting Standards ("IFRS"), as issued by the International Accounting Standards Board, applied on a consistent basis throughout the periods covered thereby; and the supporting schedules included in the Registration Statement present fairly the information required to be stated therein. Each of the Registration Statement, the General Disclosure Package and the Prospectus discloses all material off-balance sheet transactions, arrangements, obligations (including contingent obligations), and other relationships of the Company with unconsolidated entities or other persons that are reasonably likely to have a material current or future effect on the Company's financial condition, changes in financial condition, results of operations, liquidity, capital expenditures, capital resources or significant components of revenues or expenses.

19. Stock Exchange Listing. (i) The Company's ADSs are listed on the Nasdaq Capital Market and the Company has taken no action designed to, or likely to have the effect of, delisting the ADSs from the Nasdaq Capital Market, nor has the Company received any notification that the Nasdaq Capital Market is contemplating terminating the listing. The ADSs and Warrant ADSs are approved for listing on the Nasdaq Capital Market, subject only to official notice of issuance.

20. Sarbanes-Oxley Compliance. The Company has developed and currently maintains disclosure controls and procedures that comply with Rule 13a-15 or 15d-15 under the Exchange Act, and such controls and procedures are effective to ensure that all material information concerning the Company is made known on a timely basis to the individuals responsible for the preparation of the Company's Exchange Act filings and other public disclosure documents. The Company is in material compliance with the provisions of the Sarbanes-Oxley Act applicable to it, and has implemented or will implement such programs and taken reasonable steps to ensure the Company's future compliance (not later than the relevant statutory and regulatory deadlines therefor) with all of the material provisions of the Sarbanes-Oxley Act.

21. Accounting Controls. The Company and its Subsidiaries maintain systems of “internal control over financial reporting” (as defined under Rules 13-a15 and 15d-15 under the Exchange Act) that comply with the requirements of the Exchange Act and have been designed by, or under the supervision of, their respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS, including, but not limited to, internal accounting controls sufficient to provide reasonable assurance that: (i) transactions are executed in accordance with management’s general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with IFRS and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management’s general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Except as disclosed in the Registration Statement, General Disclosure Package and the Prospectus, there are no material weaknesses in the Company’s internal control over financial reporting. Since the date of the latest audited financial statements included in the General Disclosure Package and the Prospectus, (a) the Company has not been advised of: (i) any significant deficiencies and/or material weaknesses in the design or operation of the Company’s internal control over financial reporting that could adversely affect or are reasonably likely to adversely affect the ability of the Company and its Subsidiaries to record, process, summarize and report financial information; and (ii) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company’s internal control over financial reporting; and (b) there has been no change in the Company’s internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting.

22. Foreign Corrupt Practices Act. None of the Company and its Subsidiaries or, to the Company’s knowledge, any director, officer, agent, employee or affiliate of the Company and its Subsidiaries or any other person acting on behalf of the Company and its Subsidiaries, has, directly or indirectly, given or agreed to give any money, gift or similar benefit (other than legal price concessions to customers in the ordinary course of business) to any customer, supplier, employee or agent of a customer or supplier, or official or employee of any governmental agency or instrumentality of any government (domestic or foreign) or any political party or candidate for office (domestic or foreign) or other person who was, is, or may be in a position to help or hinder the business of the Company (or assist it in connection with any actual or proposed transaction) that (i) might subject the Company to any damage or penalty in any civil, criminal or governmental litigation or proceeding, (ii) if not given in the past, might have had a Material Adverse Effect or (iii) if not continued in the future, might be reasonably expected to result in a Material Adverse Effect. The Company has taken reasonable steps to ensure that its accounting controls and procedures are sufficient to cause the Company to comply in all material respects with the Foreign Corrupt Practices Act of 1977, as amended.

23. Compliance with OFAC. None of the Company and its Subsidiaries or, to the Company’s knowledge, any director, officer, agent, employee or affiliate of the Company and its Subsidiaries or any other person acting on behalf of the Company and its Subsidiaries, is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury (“OFAC”), and the Company will not, directly or indirectly, use the proceeds of the offering of the Offered Securities hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

24. No Labor Disputes. No labor related litigation, and no material labor dispute with the employees of the Company or any of its Subsidiaries exists or, to the knowledge of the Company, is imminent.

## VOTING AND STANDSTILL AGREEMENT

This VOTING AND STANDSTILL AGREEMENT (this “Agreement”), dated as of July 26, 2017, is entered into between BioLineRx Ltd. (“BioLineRx” or the “Company”) and Biotechnology Value Fund, together with any affiliates, control persons, nominees or others under common control (“BVF”).

WHEREAS, concurrently with the execution of this Agreement, BVF is participating in a direct placement offering (the “Offering”) pursuant to which it has agreed to purchase (i) 8,495,575 American Depositary Shares (“ADSs”) representing 8,495,575 of the Company’s ordinary shares, par value NIS 0.10 per share (“Ordinary Shares”), at a purchase price of \$1.13 per ADS, (ii) 2,973,451 Series A warrants to purchase ADSs at an exercise price of \$2.00 per warrant (the “Series A Warrants”), (iii) 2,973,451 Series B warrants to purchase ADSs at an exercise price of \$4.00 per warrant (the “Series B Warrants,” and together with the Series A Warrants, the “Warrants”), and (iv) 5,946,902 ADSs representing 5,946,902 Ordinary Shares issuable upon exercise of the Warrants (the “Warrant ADSs”), pursuant to a prospectus supplement dated July 26, 2017 and a base prospectus dated October 16, 2015;

WHEREAS, as a result of the Offering, BVF will be the beneficial owner (as defined under Rule 13d-3 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) of certain ADSs, each representing one Ordinary Share (such ADSs, together with any other ADSs the voting power over which is acquired by BVF during the period from the date hereof through the date on which this Agreement terminates in accordance with Section 5.1 hereof (such period, the “Voting Period”), including any and all ADSs acquired by BVF during the Voting Period pursuant to the exercise, exchange or conversion of, or other transaction involving, any and all Warrants issued to BVF in the Offering, are collectively referred to herein as the “Subject Securities”);

WHEREAS, as a condition to the willingness of the Company to engage in the Offering and as an inducement and in consideration therefor, BVF has agreed to enter into this Agreement.

NOW, THEREFORE, in consideration of the foregoing, the mutual covenants and agreements set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

### ARTICLE I VOTING AGREEMENT

Section 1.1 *Voting Rights Waiver*. BVF hereby unconditionally and irrevocably agrees, during the Voting Period, to forego and to waive any and all voting rights BVF may have in respect of the Subject Securities that exceed 19.99% of the Company’s total then outstanding voting power on any matter brought to a vote of the Company’s shareholders (the portion of the voting rights in respect of the Subject Securities that exceeds 19.99% of the Company’s then outstanding voting power on any matter brought to a vote of the Company’s shareholders being referred to as the “Excess Voting Rights”).

Section 1.2 *Grant of Irrevocable Proxy; Appointment of Proxy*. BVF hereby unconditionally and irrevocably appoints the Board of Directors of the Company and any designee thereof as its proxy and attorney-in-fact (with full power of substitution), to vote or cause to be voted (including by proxy or written resolution, if applicable) the Excess Voting Rights on any matter brought before the Company’s shareholders at any meeting of the shareholders of the Company, or in any other circumstance in which the vote of the shareholders of the Company is sought, with the majority of the unaffiliated shareholders of the Company voting on such matter.

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## ARTICLE II COVENANTS

### Section 2.1 *Generally.*

(a) In the event of a stock dividend or distribution, or any change in the ADSs, Ordinary Shares or Warrants by reason of any stock dividend or distribution, split-up, recapitalization, combination, conversion, exchange of shares or the like, the term “Subject Securities” shall be deemed to refer to and include the Subject Securities as well as all such stock dividends and distributions and any securities into which or for which any or all of the Subject Securities or Warrants may be changed or exchanged or which are received in such transaction.

(b) BVF agrees, while this Agreement is in effect, not to take or agree or commit to take any action that would make any of its representations and warranties contained in this Agreement inaccurate in any material respect.

Section 2.2 *Standstill Obligations of BVF.* BVF hereby agrees that, during the Voting Period, it will limit its direct and indirect interest in the Company, including voting security interests held by or through “affiliates” or other entities under its “control” (as such terms are defined under Rule 405 of the Securities Act of 1933, as amended), to 19.9% of the Company’s then outstanding voting power and/or “means of control” (as such term is defined under the Israeli Companies Law, 1999), and at no time shall BVF directly or indirectly acquire and/or hold, alone or together with affiliates or other entities under its control (including “relatives” as such term is defined under the Israeli Companies Law, 1999) more than a 24.9% of the economic interest in the Company’s voting securities, whether or not paired with a right to vote.

Section 2.3 *Restrictions on Transfer.* BVF hereby agrees that, during the Voting Period, it will not directly or indirectly sell, transfer or otherwise participate in the sale or transfer of securities of the Company with voting power in excess of 9.9% of the Company’s then outstanding voting power to any single entity or group of affiliated entities without the Company’s prior written consent. BVF hereby further agrees that, during the Voting Period, it will not directly or indirectly sell, transfer or otherwise participate in the sale or transfer of any securities of the Company that would result in such single entity or group of affiliated entities having voting power in excess of 19.9% of the Company’s then outstanding voting power.

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**ARTICLE III  
REPRESENTATIONS AND WARRANTIES OF BVF**

Section 3.1 BVF hereby represents and warrants to the Company, as of the date of this Agreement, as follows: (a) BVF has the full legal right, power, capacity and authority to (i) execute and deliver this Agreement, (ii) perform its obligations hereunder and (iii) consummate the transactions contemplated hereby; (b) this Agreement, assuming due authorization, execution and delivery hereof by the Company, constitutes a legal, valid and binding obligation of BVF, enforceable against BVF in accordance with its terms; and (c) the execution and delivery of this Agreement by BVF does not, and the consummation of the transactions contemplated hereby and the compliance with the provisions hereof will not, conflict with or violate any law or agreement binding upon BVF, nor require any authorization, consent or approval of, or filing with, any governmental authority, except for filings with the Securities and Exchange Commission.

**ARTICLE IV  
REPRESENTATIONS AND WARRANTIES OF THE COMPANY**

Section 4.1 The Company hereby represents and warrants to BVF, as of the date of this Agreement, as follows: (a) this Agreement has been duly and validly authorized by the Company's Board of Directors, (b) this Agreement has been duly executed and delivered by a duly authorized officer or other representative of the Company, and (c) this Agreement, assuming due authorization, execution and delivery hereof by BVF, this Agreement constitutes a valid and binding agreement of the Company, enforceable against the Company in accordance with its terms, and (d) the execution and delivery of this Agreement by the Company does not, and the consummation of the transactions contemplated hereby and the compliance with the provisions hereof will not, conflict with or violate any law or agreement binding upon the Company, nor require any authorization, consent or approval of, or filing with, any governmental authority, except for filings with the Securities and Exchange Commission.

**ARTICLE V  
TERMINATION**

Section 5.1 *Termination.* This Agreement shall terminate and be of no further force or effect upon such time as BVF is no longer an owner of any Subject Securities of the Warrants.

**ARTICLE VI  
MISCELLANEOUS**

Section 6.1 *Notices.* All notices and other communications hereunder shall be in writing (in the English language) and shall be deemed duly given upon receipt if delivered personally, or if by email or facsimile, upon confirmation of receipt by email or facsimile. All notices hereunder shall be delivered to the address set forth on the signature pages hereto under each party's name, or pursuant to such other instructions as may be designated in writing by the party to receive such notice.

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Section 6.2 *Severability*. Any term or provision of this Agreement which is invalid or unenforceable in any jurisdiction shall, as to that jurisdiction, be ineffective to the extent of such invalidity or unenforceability without rendering invalid or unenforceable the remaining terms and provisions of this Agreement in any other jurisdiction. If any provision of this Agreement is so broad as to be unenforceable, such provision shall be interpreted to be only as broad as is enforceable.

Section 6.3 *Entire Agreement*. This Agreement embodies the complete agreement and understanding among the parties hereto with respect to the subject matter hereof and thereof and supersede and preempt any prior understandings, agreements or representations by or among the parties, written or oral, which may have related to the subject matter hereof in any way.

Section 6.4 *Specific Performance*. BVF acknowledges that monetary damages would not be an adequate remedy in the event that any covenant or agreement in this Agreement is not performed in accordance with its terms, and it is therefore agreed that, in addition to and without limiting any other remedy or right it may have, the Company will have the right to an injunction, temporary restraining order or other equitable relief in any court of competent jurisdiction enjoining any such breach and enforcing specifically the terms and provisions hereof. BVF agrees not to oppose the granting of such relief in the event a court determines that such a breach has occurred, and to waive any requirement for the securing or posting of any bond in connection with such remedy. All rights, powers, and remedies provided under this Agreement or otherwise available in respect hereof at law or in equity shall be cumulative and not alternative, and the exercise or beginning of the exercise of any thereof by the Company shall not preclude the simultaneous or later exercise of any other such right, power or remedy by it.

Section 6.5 *Amendments; Waivers*. Any provision of this Agreement may be amended or waived if, and only if, such amendment or waiver is in writing and signed, in the case of an amendment, by BVF and the Company, or in the case of a waiver, by the party against whom the waiver is to be effective.

Section 6.6 *Governing Law*. This Agreement shall be governed and construed in accordance with the laws of the State of New York, without regard to any applicable conflicts of law principles that would cause the application of the laws of any other jurisdiction.

Section 6.7 *Jurisdiction; Enforcement*. The parties agree that any action brought by any party to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement or the transactions contemplated hereby shall be brought in any State of New York or United States Federal court sitting in the Borough of Manhattan, the City of New York. Each of the parties submits to the jurisdiction of any such court in any action seeking to enforce any provision of, or based on any matter arising out of, or in connection with, this agreement or the transactions contemplated hereby, and hereby irrevocably waives the benefit of jurisdiction derived from present or future domicile or otherwise in such action. Each party irrevocably waives, to the fullest extent permitted by law, any objection that it may now or hereafter have to the laying of the venue of any such proceeding in any such court or that any such proceeding brought in any such court has been brought in an inconvenient forum.

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Section 6.8 WAIVER OF JURY TRIAL. EACH OF THE PARTIES TO THIS AGREEMENT HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT SUCH PARTY MAY HAVE TO TRIAL BY JURY IN ANY LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY DOCUMENTS OR INSTRUMENTS REFERRED TO IN THIS AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY, OR THE ACTIONS OF EACH OF THE PARTIES IN NEGOTIATION, ADMINISTRATION, PERFORMANCE AND ENFORCEMENT OF THIS AGREEMENT.

Section 6.9 *No Third Party Beneficiaries*. There are no third party beneficiaries of this Agreement and nothing in this Agreement, express or implied, is intended to confer on any person other than the parties hereto (and their respective successors, heirs and permitted assigns), any rights, remedies, obligations or liabilities.

Section 6.10 *Assignment; Binding Effect*. Neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned by any of the parties hereto (whether by operation of law or otherwise) without the prior written consent of the other parties. Subject to the preceding sentence, this Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and permitted assigns.

Section 6.11 *Counterparts*. This Agreement may be executed in two or more consecutive counterparts (including by facsimile or email pdf format), each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument, and shall become effective when one or more counterparts have been signed by each of the parties and delivered (by telecopy, email pdf format or otherwise) to the other parties.

Section 6.12 *No Partnership, Agency or Joint Venture*. This Agreement is intended to create a contractual relationship between BVF, on the one hand, and the Company, on the other hand, and is not intended to create, and does not create, any agency, partnership, joint venture or any like relationship between or among the parties hereto.

[Signature Pages to follow]

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IN WITNESS WHEREOF, the parties hereto have duly executed and delivered this Agreement as of the date and year first written above.

**BIOTECHNOLOGY VALUE FUND, L.P.**

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President of BVF, Inc., itself GP of BVF Partners L.P., itself GP of Biotechnology Value Fund, L.P.

**BIOTECHNOLOGY VALUE FUND II, L.P.**

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President of BVF, Inc., itself GP of BVF Partners L.P., itself GP of Biotechnology Value Fund II, L.P.

**BIOTECHNOLOGY VALUE TRADING FUND OS, L.P.**

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President of BVF, Inc., itself GP of BVF Partners L.P., itself Sole Member of BVF Partners OS, Ltd., itself GP of Biotechnology Value Trading Fund OS, L.P.

IN WITNESS WHEREOF, the parties hereto have duly executed and delivered this Agreement as of the date and year first written above.

**INVESTMENT 10, LLC**

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President of BVF, Inc., itself GP of BVF Partners L.P., itself the investment advisor of Investment 10, LLC

**MSI BVF SPV, L.L.C.**

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President of BVF, Inc., itself GP of BVF Partners L.P., itself attorney-in-fact for MSI BVF SPV, L.L.C.

**BioLineRx Ltd.**

Modi'in Technology Park  
2 HaMa'ayan Street  
Modi'in 7177871, Israel

By: /s/ Philip Serlin  
Name: Philip Serlin  
Title: Chief Executive Officer

*[Signature page to Voting and Standstill Agreement]*

**JOINT FILING AGREEMENT**

In accordance with Rule 13d-1(k)(1)(iii) under the Securities Exchange Act of 1934, as amended, the persons named below agree to the joint filing on behalf of each of them of a Statement on Schedule 13D dated August 7, 2017 (including amendments thereto) with respect to the shares of Ordinary Shares, par value NIS 0.10 per share, of BioLineRx Ltd. This Joint Filing Agreement shall be filed as an Exhibit to such Statement.

Dated: August 7, 2017

BIOTECHNOLOGY VALUE FUND, L.P.

By: BVF Partners L.P., its general partner

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert  
President

BVF INC.

By: /s/ Mark N. Lampert

Mark N. Lampert  
President

/s/ Mark N. Lampert

MARK N. LAMPERT

BIOTECHNOLOGY VALUE FUND II, L.P.

By: BVF Partners L.P., its general partner

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert  
President

BVF PARTNERS L.P.

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert  
President

BVF PARTNERS OS LTD.

By: BVF Partners L.P., its sole member

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert  
President

BIOTECHNOLOGY VALUE TRADING FUND OS LP

By: BVF Partners L.P., its investment manager

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert  
President