

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

SCHEDULE 14A

(Rule 14a-101)
SCHEDULE 14A INFORMATION

**Proxy Statement Pursuant to Section 14(a) of the
Securities Exchange Act of 1934
(Amendment No. __)**

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement.
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2)).
- Definitive Proxy Statement.
- Definitive Additional Materials.
- Soliciting Material Pursuant to §240.14a-12.

Pluristem Therapeutics Inc.

(Name of Registrant as Specified In Its Charter)
(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

- Fee paid previously with preliminary materials.
- Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

PLURISTEM THERAPEUTICS INC.

ANNUAL MEETING OF STOCKHOLDERS
JUNE 13, 2019

PROXY CARD

THE FOLLOWING PROXY IS BEING SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS OF PLURISTEM THERAPEUTICS INC.

The undersigned stockholder of Pluristem Therapeutics Inc. (the "Company") hereby appoints Zami Aberman and Yaky Yanay, or any of them, as proxy and attorney of the undersigned, for and in the name(s) of the undersigned, to attend the annual meeting of stockholders of the Company (the "Stockholders Meeting") to be held at the Company's offices at Matam Advanced Technology Park Building No. 5, Haifa, Israel, 3508409 on June 13, 2019 at 5:00 p.m. local time, and any adjournment thereof, to cast on behalf of the undersigned all the votes that the undersigned is entitled to cast at such meeting and otherwise to represent the undersigned at the Stockholders Meeting with all powers possessed by the undersigned if personally present at the Stockholders Meeting, including, without limitation, to vote and act in accordance with the instructions set forth below. The undersigned hereby acknowledges receipt of the Notice of Annual Meeting of Stockholders and revokes any proxy heretofore given with respect to such meeting.

THE VOTES ENTITLED TO BE CAST BY THE UNDERSIGNED WILL BE CAST AS INSTRUCTED BELOW.

IF THIS PROXY CARD IS EXECUTED BUT NO INSTRUCTION IS GIVEN WITH RESPECT TO ANY PROPOSAL SPECIFIED HEREIN, THE VOTES ENTITLED TO BE CAST BY THE UNDERSIGNED WILL BE CAST "FOR" EACH NOMINEE IN PROPOSAL NO. 1 AND "FOR" PROPOSAL NO. 2, 3, 4 AND 5 AND "2 YEARS" FOR PROPOSAL NO. 6.

(Continued and to be signed on the reverse side)

ANNUAL MEETING OF STOCKHOLDERS OF
PLURISTEM THERAPEUTICS INC.

June 13, 2019

GO GREEN

e-Consent makes it easy to go paperless. With e-Consent, you can quickly access your proxy material, statements and other eligible documents online, while reducing costs, clutter and paper waste. Enroll today via www.astfinancial.com to enjoy online access.

NOTICE OF INTERNET AVAILABILITY OF PROXY MATERIAL:

The Notice of Meeting, proxy statement and proxy card
are available at <http://www.astproxyportal.com/ast/15665/>

Please sign, date and mail
your proxy card in the
envelope provided as soon
as possible.

↓ Please detach along perforated line and mail in the envelope provided. ↓

THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" THE ELECTION OF EACH OF THE DIRECTOR NOMINEES LISTED IN PROPOSAL NO. 1 AND "FOR" PROPOSALS NO. 2, 3, 4 AND 5, AND "2 YEARS" FOR PROPOSAL NO. 6.

PLEASE SIGN, DATE AND RETURN PROMPTLY IN THE ENCLOSED ENVELOPE. PLEASE \ MARK YOUR VOTE IN BLUE OR BLACK INK AS SHOWN HERE ☐

1. Proposal No. 1- Election of Directors: To elect the following nominees to the Board of Directors to serve as directors of the Company until the next annual meeting of the stockholders and until their successors shall have been duly elected and qualified:

| | FOR | AGAINST | ABSTAIN |
|------------------|--------------------------|--------------------------|--------------------------|
| Zami Aberman | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Israel Ben-Yoram | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Isaac Braun | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Mark Germain | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Moria Kwiat | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Hava Meretzki | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Nachum Rosman | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | FOR | AGAINST | ABSTAIN |
|---|--------------------------|--------------------------|--------------------------|
| Doron Shorrer | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Yaky Yanay | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Proposal No. 2 - To ratify the selection of Kost Forer Gabbay & Kasirer, a member of Ernst & Young Global, as independent registered public accounting firm of the Company for the fiscal year ending June 30, 2019. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Proposal No. 3 - To approve an amendment to the Articles of Incorporation of the Company to increase the number of authorized shares of common stock from two hundred million (200,000,000) shares, par value \$0.00001 per share, to three hundred million (300,000,000) shares, par value \$0.00001 per share. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Proposal No. 4 - To consider and approve the Company's 2019 Equity Compensation Plan. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Proposal No. 5 - To consider and approve, by a nonbinding advisory vote, the compensation of the Company's named executive officers. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Proposal No. 6 - To recommend, by a nonbinding advisory vote, the frequency of holding an advisory vote on executive compensation. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 1 YEAR | 2 YEARS | 3 YEARS |
| | | | ABSTAIN |

To change the address on your account, please check the box at right and indicate your new address in the address space above. Please note that changes to the registered name(s) on the account may not be submitted via this method.

In their discretion, the proxies are authorized to vote upon such other business as may properly come before the Stockholders Meeting.

MARK "X" HERE IF YOU PLAN TO ATTEND THE MEETING.

Signature of Stockholder

Date:

Signature of Stockholder

Date:

Note:

Please sign exactly as your name or names appear on this Proxy. When shares are held jointly, each holder should sign. When signing as executor, administrator, attorney, trustee or guardian, please give full title as such. If the signer is a corporation, please sign full corporate name by duly authorized officer, giving full title as such. If signer is a partnership, please sign in partnership name by authorized person.

ANNUAL MEETING OF STOCKHOLDERS OF
PLURISTEM THERAPEUTICS INC.

June 13, 2019

PROXY VOTING INSTRUCTIONS

INTERNET - Access "www.voteproxy.com" and follow the on-screen instructions or scan the QR code with your smartphone. Have your proxy card available when you access the web page.

TELEPHONE - Call toll-free **1-800-PROXIES** (1-800-776-9437) in the United States or **1-718-921-8500** from foreign countries from any touch-tone telephone and follow the instructions. Have your proxy card available when you call. Vote online or by telephone until 11:59 PM EST the day before the meeting.

MAIL - Sign, date and mail your proxy card in the envelope provided as soon as possible.

IN PERSON - You may vote your shares in person by attending the Annual Meeting.

GOGREEN - e-Consent makes it easy to go paperless. With e-Consent, you can quickly access your proxy material, statements and other eligible documents online, while reducing costs, clutter and paper waste. Enroll today via www.astfinancial.com to enjoy online access.

| | |
|----------------|--|
| COMPANY NUMBER | |
| ACCOUNT NUMBER | |
| | |

NOTICE OF INTERNET AVAILABILITY OF PROXY MATERIAL

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PLEASE SIGN, DATE AND RETURN PROMPTLY IN THE ENCLOSED ENVELOPE. PLEASE \ MARK YOUR VOTE IN BLUE OR BLACK INK AS SHOWN HERE ☐

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| Isaac Braun | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Mark Germain | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Moria Kwiat | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Hava Meretzki | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Nachum Rosman | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

To change the address on your account, please check the box at right and indicate your new address in the address space above. Please note that changes to the registered name(s) on the account may not be submitted via this method.

| | FOR | AGAINST | ABSTAIN |
|---|--------------------------|--------------------------|--------------------------|
| Doron Shorrer | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Yaky Yanay | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| 4. Proposal No. 4 - To consider and approve the Company's 2019 Equity Compensation Plan. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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Date:

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Note:

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Important Notice of Availability of Proxy Materials for the Stockholder Meeting of

PLURISTEM THERAPEUTICS INC.

To Be Held On:

June 13, 2019 at 5:00 p.m. local time

at the Company's offices at Matam Advanced Technology Park Building No. 5, Haifa, Israel, 3508409

| | |
|----------------|--|
| COMPANY NUMBER | |
| ACCOUNT NUMBER | |
| CONTROL NUMBER | |

This communication presents only an overview of the more complete proxy materials that are available to you on the Internet. We encourage you to access and review all of the important information contained in the proxy materials before voting.

If you want to receive a paper or e-mail copy of the proxy materials you must request one. There is no charge to you for requesting a copy. To facilitate timely delivery please make the request as instructed below before 6/3/19.

Please visit <http://www.astproxyportal.com/ast/15665/>, where the following materials are available for view:

- Notice of Annual Meeting of Stockholders
- Proxy Statement
- Form of Electronic Proxy Card
- Annual Report

TO REQUEST MATERIAL:

TELEPHONE: 888-Proxy-NA (888-776-9962) (For US Residents Only)

E-MAIL: info@astfinancial.com (For US Residents Only)

WEBSITE: <https://us.astfinancial.com/OnlineProxyVoting/ProxyVoting/RequestMaterials> (For US Residents Only)

TELEPHONE: 972-074-710-7126 (For Non-US Residents)

E-MAIL: chenf@pluristem.com (For Non-US Residents)

ONLINE: To access your online proxy card, please visit www.voteproxy.com and follow the on-screen instructions or scan the QR code with your smartphone. You may enter your voting instructions at www.voteproxy.com up until 11:59 PM Eastern Time the day before the meeting date.

TELEPHONE: To vote by telephone, please visit www.voteproxy.com to view the materials and to obtain the toll free number to call.

IN PERSON: You may vote your shares in person by attending the Annual Meeting. For directions to the Annual Meeting please call 972-74-7108600

MAIL: You may request a card by following the instructions above.

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Zami Aberman

Israel Ben-Yoram

Isaac Braun

Mark Germain

Moria Kwiat

Hava Meretzki

Nachum Rosman

Doron Shorrer

Yaky Yanay

Please note that you cannot use this notice to vote by mail.