

VASCULAR BIOGENICS LTD.

**PROXY FOR THE ANNUAL GENERAL MEETING OF
SHAREHOLDERS
TO BE HELD ON December 23, 2019
THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS**

The undersigned hereby constitutes and appoints Amos Ron as the true and lawful attorney, agent and proxy of the undersigned, with full power of substitution, to represent and to vote, on behalf of the undersigned, all of the ordinary shares of Vascular Biogenics Ltd. (the "Company"), held of record in the name of the undersigned at the close of business on November 25, 2019, at the Annual General Meeting of Shareholders of the Company (the "Meeting") to be held at the offices of the Company at 8 HaSarat St. Modi'in, Israel at 4:00 p.m. (local time), and at any and all adjournments or postponements thereof on the following matter, which is more fully described in the Notice of the Annual General Meeting of Shareholders and Proxy Statement relating to the Meeting.

The undersigned acknowledges receipt of the Notice of the Annual General Meeting of Shareholders and Proxy Statement of the Company relating to the Meeting.

This Proxy, when properly executed, will be voted in the manner directed herein by the undersigned. If no direction is made with respect to any proposal described below, this Proxy will be voted FOR such proposal and in such manner as the holder of the proxy may determine with respect to any other business as may properly come before the Meeting or all and any adjournments or postponements thereof. Any and all proxies heretofore given by the undersigned are hereby revoked.

(Continued and to be signed on the reverse side)

ANNUAL GENERAL MEETING OF SHAREHOLDERS OF

VASCULAR BIOGENICS LTD.

November 1, 2019

NOTICE OF INTERNET AVAILABILITY OF PROXY MATERIAL:

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

**Please date, sign and mail
your proxy card as soon
as possible.**

**THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" THE ELECTION OF ALL
NOMINEES TO DIRECTORS LISTED IN PROPOSAL 1 AND "FOR" PROPOSALS 2, 3 AND 4.
PLEASE SIGN, DATE AND RETURN PROMPTLY IN THE ENCLOSED
ENVELOPE. PLEASE MARK YOUR VOTE IN BLUE OR BLACK INK AS SHOWN HERE [X]**

1. Election of the following eight directors:

- | | | | |
|-------------------------------|--------------------------|--------------------------|--------------------------|
| (a) Dr. Bennett M. Shapiro | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (b) Prof. Dror Harats | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (c) Prof. Ruth Arnon | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (d) Ms. Ruth Alon | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (e) Dr. Shmuel (Muli) Ben Zvi | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (f) Dr. Ron Cohen | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (h) Mr. David Hastings | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (i) Dr Susan Kelley | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2. To ratify the reappointment of Kesselman & Kesselman, a member firm of PricewaterhouseCoopers International Limited, as the Company's independent registered public accounting firm for the year ending December 31, 2019, and until the next annual general meeting of shareholders of the Company and authorize the Board (with power of delegation to its audit committee) to fix the said independent registered public accounting firm's remuneration in accordance with the volume and nature of its services.

3. To approve a Compensation Policy for the directors and other office holders of the Company, in accordance with the requirements of the Israeli Companies Law, 5759-1999.

Are you a "controlling shareholder" or do you have a "personal interest" (as defined in the Proxy Statement) with respect to the subject matter of Proposal 3? * YES No

*** Kindly note that failure to mark the appropriate indication shall be deemed as if you have a personal interest in said Proposal.**

4. To approve the grant of options and performance share units under the 2014 Plan according to the standard agreements as follows:

- (i) grant of an option to purchase 240,000 of our ordinary shares to Pr. Dror Harats, a member of our Board of Directors;

Are you a "controlling shareholder" or do you have a "personal interest" (as defined in the Proxy Statement) with respect to the subject matter of Proposal 4(i)? * YES No

*** Kindly note that failure to mark the appropriate indication shall be deemed as if you have a personal interest in said Proposal.**

- (ii) grant of an option to purchase 100,000 of our ordinary shares to Dr. Bennett M. Shapiro, a member of our Board of Directors;

- (iii) grant of an option to purchase 50,000 of our ordinary shares to Mr. Dr. Ron Cohen, a member of our Board of Directors;

- (iv) grant of an option to purchase 50,000 of our ordinary shares to Prof. Ruth Arnon, a member of our Board of Directors;

- (v) grant of an option to purchase 50,000 of our ordinary shares to Ms. Ruth Alon, a member of our Board of Directors;

- (vi) grant of an option to purchase 50,000 of our ordinary shares to Mr. David Hastings, a member of our Board of Directors;

- (vii) grant of an option to purchase 50,000 of our ordinary shares to Dr. Susan Kelley, a member of our Board of Directors;

- (viii) grant of an option to purchase 20,000 of our ordinary shares to Dr. Shmuel (Muli) Ben Zvi, a member of our Board of Directors;

Signature of shareholder Date Signature of shareholder Date

Note: Please sign exactly as your name or names appear on this Proxy. When shares are held jointly, each owner 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 a duly authorized officer, giving full title as such. If the signer is a partnership, please sign in partnership name by authorized person.