NOTICE OF ANNUAL GENERAL MEETING OF SHAREHOLDERS

To be held on May 12, 2022

The Annual General Meeting of Shareholders of RedHill Biopharma Ltd. (the "Company"), will be held at the offices of the Company, 21 Ha'arba'a Street, 16th Floor, Tel-Aviv, Israel, on May 12, 2022, at 3:00 p.m. Israel time, or at any adjournments thereof (the "General Meeting"), for the following purposes:

1. To appoint Kesselman & Kesselman, certified public accountants in Israel and a member of PricewaterhouseCoopers International Limited, as the Company's auditors for the year 2022 and for an additional period until the next Annual General Meeting; and to inform the shareholders of the aggregate compensation paid to the auditors for the year ended December 31, 2021;
2. To approve the re-election of Mr. Dror Ben-Asher, Dr. Kenneth Reed and Ms. Alla Felder to the board of directors of the Company (the "Board of Directors") for an additional three-year term until the annual general meeting to be held in 2025;
3. To approve an amended Compensation Policy for a period of three years;
4. To approve an amendment to the Company's Letters of Exemption and Indemnification to the Company's officers and directors;
5. To approve a grant of restricted share units ("RSUs") each with respect to one American Depository Shares (each representing 10 ordinary shares, par value NIS 0.01 each) ("ADSs") of the Company to the non-executive directors of the Company;
6. To approve the grant of RSUs to Mr. Dror Ben-Asher, the Company's Chief Executive Officer and Chairman of the Board of Directors;
7. To approve the grant of RSUs to Mr. Rick D. Scruggs, the Company's Chief Commercial Officer and director; and
8. To approve an increase in the Company's authorized share capital.

In addition, shareholders at the General Meeting will have an opportunity to review and ask questions regarding the financial statements of the Company for the fiscal year ended December 31, 2021.

The Company is currently unaware of any other matters that may be raised at the General Meeting. Should any other matters be properly raised at the General Meeting, the persons designated as proxies shall vote according to their own judgment on those matters.

Only holders of record of Ordinary Shares and holders of record of ADSs, evidenced by American Depositary Receipts issued by The Bank of New York Mellon at the close of business on April 5, 2022 shall be entitled to receive notice of and to vote at the General Meeting.

The Board of Directors recommends that you vote FOR the proposals, as specified on the enclosed form of proxy.

Whether or not you plan to attend the General Meeting, it is important that your ADSs or Ordinary Shares be represented. Accordingly, you are kindly requested to complete, date, sign and mail the proxy in the envelope to be provided at your earliest convenience so that it will be received no later

than four hours prior to the General Meeting. Execution of a proxy will not in any way affect a shareholder's right to attend the General Meeting and vote in person, and any person giving a proxy has the right to revoke it at any time before it is exercised.

Shareholders who hold ordinary shares through members of the Tel-Aviv Stock Exchange Ltd. ("TASE"), who did not convert their ordinary shares to ADSs, may vote in the General Meeting in person or vote through the proxy card to be provided separately, which also serves as their voting card, by completing, dating, signing and mailing the proxy card to the Company's offices so that it is received by the Company no later than May 12, 2022 at 11:00 a.m. Israel time, and must also provide the Company with a copy of their identity card, passport or certificate of incorporation (as the case may be), and an ownership certificate confirming their ownership of the Company's ordinary shares on the Record Date. Such certificate must be approved by a recognized financial institution, as required by the Israeli Companies Regulations (Proof of Ownership of Shares for Voting at General Meeting) of 2000, as amended.

ADS holders should return their proxies by the date set forth on their form of proxy.

Shareholders wishing to express their position on an agenda item for this General Meeting may do so by submitting a written statement ("Position Statement") to the Company's offices, c/o Mr. Micha Ben Chorin, at 21 Ha'arba'a Street, Tel-Aviv, 6473921 Israel, by no later than May 2, 2022. Any Position Statement received, that is in accordance with the guidelines set by the Israel Companies Law, will be furnished to the U.S. Securities and Exchange Commission (the "Commission") on Form 6-K, and will be made available to the public on the Commission's website at http://www.sec.gov.

If within half an hour from the time appointed for the General Meeting a quorum is not present, the General Meeting shall be adjourned to the next business day following the day of the scheduled General Meeting, at the same time and place, or at another day, time and place prescribed by the Board of Directors in a notification to the shareholders.

This Notice and the documents mentioned therein, as well as the proposed resolutions on the agenda, will be made available to the public on the Company's website http://www.redhillbio.com and on the Commission's website at http://www.sec.gov.

By Order of the Board of Directors,
Dror Ben-Asher
Chairman of the Board of Directors

Tel-Aviv, Israel
March 30, 2022