Press Release

RedHill Biopharma Further Expands Opaganib Manufacturing Capacity for COVID-19 with Cosmo Pharmaceuticals

New agreement further expands manufacturing capacity for orally-administered opaganib following positive top-line data from its Phase 2 COVID-19 study, progress with the ongoing global Phase 2/3 study, and amid the urgent need to address emerging viral strains

TEL AVIV, Israel and RALEIGH, NC, January 28, 2021, RedHill Biopharma Ltd. (Nasdaq: RDHL) ("RedHill" or the "Company"), a specialty biopharmaceutical company, today announced a manufacturing agreement with Cosmo Pharmaceuticals NV (SIX: COPN) ("Cosmo") to further expand manufacturing capacity for opaganib (Yeliva®, ABC294640)[1], to address prospective demand subsequent to potential global emergency use authorizations.

"The growing concerns over viral mutations and the spread of new potent and evasive viral strains have increased the dire need for new COVID-19 therapeutics." **said Reza Fathi, PhD., RedHill's Senior VP, R&D**. "We are very pleased to expand the manufacturing capacity of opaganib with a partner of Cosmo's quality. Opaganib is designed to act broadly against different viral strains irrespective of mutations in the Spike protein. Opaganib is a Phase 2/3-stage novel, orally-administered sphingosine kinase-2 (SK2) inhibitor with demonstrated antiviral, anti-inflammatory, and anti-thrombotic activity. By targeting SK2, a human cell component involved in viral replication irrespective of mutations in the viral Spike protein, opaganib potentially addresses the emergence of new strains."

"We are delighted to further strengthen our partnership with RedHill on expanded opaganib manufacturing, and to play a part in trying to help alleviate the suffering the coronavirus pandemic is causing across the world, should opaganib be approved for use," **said Davide Malavasi, Cosmo's Head of Manufacturing**.

The global Phase 2/3 study of opaganib in severe COVID-19 pneumonia (NCT04467840) is ongoing, with patients enrolled in more than 30 sites in multiple countries. An interim independent Data and Safety Monitoring Board (DSMB) futility analysis will be conducted in the coming days, evaluating data from the first 135 subjects that have reached the primary endpoint. The study has previously undergone two unblinded independent DSMB safety data reviews, with unanimous recommendations to continue the study.

Preliminary data from a non-powered U.S. Phase 2 study of 40 hospitalized patients recently showed that opaganib was safe and demonstrated greater improvement in reducing oxygen requirement by end of treatment on Day 14 across key primary and secondary efficacy outcomes, correlating with clinical improvement as defined by the World Health Organization (WHO) ordinal scale.

About Opaganib (ABC294640, Yeliva®)

Opaganib, a new chemical entity, is a proprietary, first-in-class, orally-administered, sphingosine kinase-2 (SK2) selective inhibitor with demonstrated dual anti-inflammatory and antiviral activity that targets a host cell component of viral replication, potentially minimizing the likelihood of viral resistance. Opaganib has also shown anticancer activity and has the potential to target multiple oncology, viral, inflammatory, and gastrointestinal indications.

Opaganib received Orphan Drug designation from the U.S. FDA for the treatment of cholangiocarcinoma and is being evaluated in a Phase 2a study in advanced cholangiocarcinoma and in a Phase 2 study in prostate cancer. Opaganib is also being evaluated as a treatment for COVID-19 pneumonia in a global Phase 2/3 study and has demonstrated positive safety and efficacy signals in preliminary top-line data from a U.S. Phase 2 study.

Preclinical data have demonstrated anti-inflammatory, antiviral and anti-thrombotic activities of opaganib, with the potential to ameliorate inflammatory lung disorders, such as pneumonia, and mitigate pulmonary fibrotic damage. Opaganib demonstrated potent antiviral activity against SARS-CoV-2, the virus that causes COVID-19, completely inhibiting viral replication in an *in vitro* model of human lung bronchial tissue. Opaganib also demonstrated reduced blood clot length, weight and total thrombus score in a preclinical model of Acquired Respiratory Distress Syndrome. Additionally, preclinical *in vivo* studies[2] have demonstrated that opaganib decreased fatality rates from influenza virus infection and ameliorated *Pseudomonas aeruginosa*-induced lung injury by reducing the levels of IL-6 and TNF-alpha in bronchoalveolar lavage fluids.

Opaganib was originally developed by U.S.-based Apogee Biotechnology Corp. and completed multiple successful preclinical studies in oncology, inflammation, GI, and radioprotection models, as well as a Phase 1 clinical study in cancer patients with advanced solid tumors and an additional Phase 1 study in multiple myeloma.

The development of opaganib has been supported by grants and contracts from U.S. federal and state government agencies awarded to Apogee Biotechnology Corp., including from the NCI, BARDA, the U.S. Department of Defense and the FDA Office of Orphan Products Development.

The ongoing studies with opaganib are registered on www.ClinicalTrials.gov, a web-based service by the U.S. National Institute of Health, which provides public access to information on publicly and privately supported clinical studies.

About RedHill Biopharma

RedHill Biopharma Ltd. (Nasdaq: RDHL) is a specialty biopharmaceutical company primarily focused on gastrointestinal and infectious diseases. RedHill promotes the gastrointestinal drugs, **Movantik®** for opioid-induced constipation in adults[3], **Talicia®** for the treatment of *Helicobacter pylori (H. pylori)* infection in adults[4], and **Aemcolo®** for the treatment of travelers' diarrhea in adults[5]. RedHill's key clinical late-stage development programs include: (i) **RHB-204**, with an ongoing Phase 3 study for pulmonary nontuberculous mycobacteria (NTM) disease; (ii) **opaganib (Yeliva®)**, a first-in-class SK2 selective inhibitor targeting multiple indications with a Phase 2/3 program for COVID-19 and Phase 2 studies for prostate cancer and cholangiocarcinoma ongoing; (iii) **RHB-107** (**upamostat**), a serine protease inhibitor with a planned Phase 2/3 study in symptomatic COVID-19 and targeting multiple other cancer and inflammatory gastrointestinal diseases; (iv) **RHB-104**, with positive results from a first Phase 3 study for Crohn's disease; (v) **RHB-102** (**Bekinda®**), with positive results from a Phase 3 study for acute gastroenteritis and gastritis and positive results from a Phase 2 study for IBS-D; and (vi) **RHB-106**, an encapsulated bowel preparation. More information about the Company is available at www.redhillbio.com / https://twitter.com/RedHillBio.

About Cosmo Pharmaceuticals

Cosmo is a specialty pharmaceutical company focused on developing and commercializing products to treat selected gastrointestinal disorders and improve endoscopy quality measures through aiding the detection of colonic lesions. Cosmo has also developed medical devices for endoscopy and has recently entered into a partnership with Medtronic for the global distribution of GI Genius™ its artificial intelligence device for use in coloscopies and GI procedures. Cosmo has licensed Aemcolo® to RedHill Biopharma for the US and has licensed Relafalk® to Dr. Falk Gmbh for the EU and other countries. For additional information on Cosmo and its products please visit the Company's website: www.cosmopharma.com

This press release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements may be preceded by the words "intends," "may," "will," "plans," "expects," "anticipates," "projects," "predicts," "estimates," "aims," "believes," "hopes," "potential" or similar words. Forward-looking statements are based on certain assumptions and are subject to various known and unknown risks and uncertainties, many of which are beyond the Company's control and cannot be predicted or quantified, and consequently, actual results may differ materially from those expressed or implied by such forward-looking statements. Such risks and

uncertainties, including without limitation, the risk that the agreement with Cosmo will not provide high-quality manufacturing capacity for opaganib or be sufficient to meet market demands; the risk that opaganib will not address resistance due to viral mutations; the risk of delay in reporting top-line data from the global Phase 2/3 study of opaganib in severe COVID-19 pneumonia and the timing of global emergency us applications if at all; as well as other risks and uncertainties associated with (i) the initiation, timing, progress and results of the Company's research, manufacturing, preclinical studies, clinical trials, and other therapeutic candidate development efforts, and the timing of the commercial launch of its commercial products and ones it may acquire or develop in the future; (ii) the Company's ability to advance its therapeutic candidates into clinical trials or to successfully complete its preclinical studies or clinical trials (iii) the extent and number and type of additional studies that the Company may be required to conduct and the Company's receipt of regulatory approvals for its therapeutic candidates, and the timing of other regulatory filings, approvals and feedback; (iv) the risk that the Company will not succeed to complete the patient recruitment of the global Phase 2/3 study; the risk that the global Phase 2/3 clinical study evaluating opaganib will not be successful or, if successful, will not suffice for emergency use applications or regulatory marketing approval without the need for additional clinical and/or other studies; (v) the manufacturing, clinical development, commercialization, and market acceptance of the Company's therapeutic candidates and Talicia®; (vi) the Company's ability to successfully commercialize and promote Movantik®, Talicia® and Aemcolo®; (vii) the Company's ability to establish and maintain corporate collaborations; (viii) the Company's ability to acquire products approved for marketing in the U.S. that achieve commercial success and build and sustain its own marketing and commercialization capabilities; (ix) the interpretation of the properties and characteristics of the Company's therapeutic candidates and the results obtained with its therapeutic candidates in research, preclinical studies or clinical trials; (x) the implementation of the Company's business model, strategic plans for its business and therapeutic candidates; (xi) the scope of protection the Company is able to establish and maintain for intellectual property rights covering its therapeutic candidates and commercial products and its ability to operate its business without infringing the intellectual property rights of others; (xii) parties from whom the Company licenses its intellectual property defaulting in their obligations to the Company; (xiii) estimates of the Company's expenses, future revenues, capital requirements and needs for additional financing; (xiv) the effect of patients suffering adverse events using investigative drugs under the Company's Expanded Access Program; and (xv) competition from other companies and technologies within the Company's industry. More detailed information about the Company and the risk factors that may affect the realization of forward-looking statements is set forth in the Company's filings with the Securities and Exchange Commission (SEC), including the Company's Annual Report on Form 20-F filed with the SEC on March 4, 2020. All forward-looking statements included in this press release are made only as of the date of this press release. The Company assumes no obligation to update any written or oral forward-looking statement, whether as a result of new information, future events or otherwise unless required by law.

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[1] Opaganib is an investigational new drug, not available for commercial distribution.
[2] Xia C. et al. Transient inhibition of sphingosine kinases confers protection to influenza A virus infected mice. Antiviral Res. 2018 Oct; 158:171-177. Ebenezer DL et al. Pseudomonas aeruginosa stimulates nuclear sphingosine-1-phosphate generation and epigenetic regulation of lung inflammatory injury. Thorax. 2019 Jun;74(6):579-591.
[3] Full prescribing information for Movantik® (naloxegol) is available at: www.Movantik.com.
[4] Full prescribing information for Talicia® (omeprazole magnesium, amoxicillin and rifabutin) is available at: www.Talicia.com.
[5] Full prescribing information for Aemcolo® (rifamycin) is available at: www.Aemcolo.com.