Press Release

RedHill Biopharma Announces Poster Presentation of the Positive RHB-105 Phase III Results for *H. pylori* Infection at Digestive Disease Week 2017

TEL-AVIV, Israel, May 4, 2017 RedHill Biopharma Ltd. (NASDAQ: RDHL) (TASE: RDHL) ("RedHill" or the "Company"), a specialty biopharmaceutical company primarily focused on the development and commercialization of late clinical-stage, proprietary, orally-administered, small molecule drugs for gastrointestinal and inflammatory diseases and cancer, today announced the presentation of a poster at Digestive Disease Week (DDW) 2017. The poster (presentation number: Sa1200) will be presented by Ira Kalfus, MD, Medical Director at RedHill, on Saturday, May 6, 2017 from 12:00 PM to 2:00 PM CDT, in Chicago, IL.

The poster[1] presentation, entitled "ERADICATE *Hp*: A Randomized, Double-Blind, Placebo-Controlled Phase III Study to Assess the Safety and Efficacy of Rifabutin Triple Therapy (RHB-105) for *Helicobacter pylori (H. pylori)* Infection in Dyspepsia Patients" describes the previously reported positive final results of the ERADICATE Hp first Phase III study with RHB-105 for *H. pylori* infection.

RHB-105 is a proprietary, fixed-dose, oral combination therapy for the eradication of *H. pylori* infection.

The ERADICATE Hp first Phase III study with RHB-105 successfully met its protocol-defined mITT primary endpoint of superiority over historical standard-of-care (SoC) eradication rate of 70%, with high statistical significance ($p<0.001$). The study results demonstrated 89.4% efficacy in eradicating *H. pylori* infection with RHB-105. Notably, the 89.4% efficacy in eradicating *H. pylori* infection with RHB-105 was also superior to subsequent open-label treatment with SoC therapies of patients in the placebo arm of the ERADICATE Hp study, which demonstrated 63% eradication rate in the mITT population ($p=0.006$), further supporting the potential efficacy of RHB-105 as a treatment for *H. pylori* infection. Treatment with RHB-105 appeared to be safe and well tolerated.

[1] The poster was authored by Ira N. Kalfus, MD, Medical Director, RedHill Biopharma; Gilead Raday, Chief Operating Officer, RedHill Biopharma; Reza Fathi, PhD, Senior VP R&D, RedHill Biopharma and David Y. Graham, MD, Professor of Medicine, Molecular Virology and Microbiology, Baylor College of Medicine.

A confirmatory Phase III study is planned to be initiated in the second quarter of 2017. The two-arm, randomized, double-blind, active comparator confirmatory Phase III study will compare RHB-105 against a dual therapy amoxicillin and omeprazole regimen at equivalent doses. The study is planned to enroll approximately 440 patients in up to 55 clinical sites in the U.S.

Subject to its successful completion, the planned confirmatory Phase III study, along with the results from the successfully completed first Phase III ERADICATE Hp study with RHB-105 and data to be obtained from an ongoing supportive PK program, are expected to support a U.S. New Drug Application (NDA) for RHB-105.

About RHB-105:
RHB-105 is a new and proprietary fixed-dose oral combination therapy of two antibiotics and a proton pump inhibitor (PPI) in an all-in-one oral capsule with a planned indication for the treatment of *H. pylori* infection. *H. pylori* bacterial infection is a major cause of chronic gastritis, peptic ulcer disease, gastric cancer and mucosa-associated lymphoid tissue (MALT) lymphoma. A first Phase III study with RHB-105 was completed in the U.S. with positive results (ERADICATE Hp study). The study demonstrated an overall success rate of 89.4% in eradicating *H. pylori*, and met its protocol-defined primary endpoint of superiority in eradication of *H. pylori* infection over historical standard-of-care efficacy levels of 70%, with high statistical significance ($p<0.001$). A confirmatory Phase III study is planned to be initiated in the U.S in the second quarter of 2017. Additional studies may be required, subject to FDA review. RHB-105 has been granted Qualifying Infectious Disease Product (QIDP) designation by the FDA, providing a Fast-Track development pathway, as well as NDA Priority Review status, potentially leading to a shorter NDA review time by the FDA, if filed. If approved, RHB-105 will also receive an additional five years of exclusivity, in addition to the standard exclusivity period, for a total of 8 years of U.S. market exclusivity.

About RedHill Biopharma Ltd.:
RedHill Biopharma Ltd. (NASDAQ: RDHL) (Tel-Aviv Stock Exchange: RDHL) is a specialty biopharmaceutical company headquartered in Israel, primarily focused on the development and commercialization of late clinical-stage, proprietary, orally-administered, small molecule drugs for the treatment of gastrointestinal and inflammatory diseases and cancer. RedHill has a U.S. co-promotion agreement with Concordia for **Donnatal®**, a prescription oral adjunctive drug used in the treatment of IBS and acute enterocolitis, as well as an exclusive license agreement with Entera Health for **EnteraGam®**, a medical food intended for the dietary management, under medical supervision, of chronic diarrhea and loose stools. RedHill's clinical-stage pipeline includes: (i) **RHB-105 -** an oral combination therapy for the treatment of *Helicobacter pylori* infection with successful results from a first Phase III study; (ii) **RHB-104 -** an oral combination therapy for the treatment of Crohn's disease with an ongoing first Phase III study, a completed proof-of-concept Phase IIa study for multiple sclerosis and QIDP status for nontuberculous mycobacteria (NTM) infections; (iii) **BEKINDA® (RHB-102) -** a once-daily oral pill formulation of ondansetron with an ongoing Phase III study for acute gastroenteritis and gastritis and an ongoing Phase II study for IBS-D; (iv) **RHB-106 -** an encapsulated bowel preparation licensed to Salix

Pharmaceuticals, Ltd.; (v) **YELIVA® (ABC294640) -** a Phase II-stage, orally-administered, first-in-class SK2 selective inhibitor targeting multiple oncology, inflammatory and gastrointestinal indications; (vi) **MESUPRON -** a Phase II-stage first-in-class, orally-administered protease inhibitor, targeting pancreatic cancer and other solid tumors and (vii) **RIZAPORT® (RHB-103) -** an oral thin film formulation of rizatriptan for acute migraines, with a U.S. NDA currently under discussion with the FDA and marketing authorization received in two EU member states under the European Decentralized Procedure (DCP). More information about the Company is available at: www.redhillbio.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 include, without limitation, 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; (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 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 manufacturing, clinical development, commercialization, and market acceptance of the Company's therapeutic candidates; (v) the Company's ability to successfully market Donnatal® and EnteraGam®, (vi) the Company's ability to establish and maintain corporate collaborations; (vii) the Company's ability to acquire products approved for marketing in the U.S. that achieve commercial success and build its own marketing and commercialization capabilities; (viii) the interpretation of the properties and characteristics of the Company's therapeutic candidates and of the results obtained with its therapeutic candidates in research, preclinical studies or clinical trials; (ix) the implementation of the Company's business model, strategic plans for its business and therapeutic candidates; (x) the scope of protection the Company is able to establish and maintain for intellectual property rights covering its therapeutic candidates and its ability to operate its business without infringing the intellectual property rights of others; (xi) parties from whom the Company licenses its intellectual property defaulting in their obligations to the Company; and (xii) estimates of the Company's expenses, future revenues capital requirements and the Company's needs for additional financing; (xiii) competitive 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 February 23, 2017. All forward-looking statements included in this Press Release are made only as of the date of this Press Release. We assume no obligation to update any written or oral forward-looking statement unless required by law.

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