Press Release

RedHill Biopharma Acquires Phase II First-In-Class Oral Small Molecule SK2 Inhibitor from Apogee Biotech

- **ABC294640 is a proprietary, first-in-class, new chemical entity (NCE) sphingosine kinase-2 (SK2) inhibitor, administered orally, which has successfully completed numerous pre-clinical studies and a Phase I study in cancer patients with advanced solid tumors**

- **ABC294640 targets multiple inflammatory, gastrointestinal and oncology indications within RedHill's therapeutic focus, and is in line with RedHill's pipeline of mid-to-late clinical-stage, proprietary, oral small molecule drug candidates**

- **RedHill has acquired the exclusive worldwide rights to ABC294640 from U.S.-based Apogee Biotechnology Corp., funded to date by over $14 million primarily through grants and contracts from U.S. federal and state government agencies, such as the FDA, Department of Defense (DoD), and the National Institutes of Health (NIH), including the National Cancer Institute and BARDA**

- **A Phase Ib/II study of ABC294640 for refractory/relapsed diffuse large B cell lymphoma, primarily funded by the National Cancer Institute/STTR, is planned to commence in Q2/2015; A second Phase II study in multiple myeloma is planned, subject to a pending National Cancer Institute/SBIR grant; A third Phase II study is planned by RedHill to assess ABC294640 as a radio-protectant and radiation enhancer in cancer patients receiving radiotherapy**

TEL-AVIV, Israel, March 31, 2015 RedHill Biopharma Ltd. (NASDAQ/TASE: RDHL) ("RedHill"), an Israeli biopharmaceutical company primarily focused on late clinical-stage, proprietary, orally-administered drugs for inflammatory and gastrointestinal diseases, including gastrointestinal cancers, and Apogee Biotechnology Corporation ("Apogee"), a privately-held biotech company located in Hummelstown, Pennsylvania, U.S., today announced that they have entered into an exclusive worldwide license agreement under which RedHill has acquired the rights to the Phase II drug candidate ABC294640 and additional intellectual property rights. ABC294640 is a proprietary, first-in-class, orally-administered sphingosine kinase-2 (SK2) inhibitor, with anti-inflammatory and anti-cancer activities, targeting multiple inflammatory, gastrointestinal (GI) and oncology indications.

Under the terms of the agreement, RedHill has acquired the exclusive worldwide development and commercialization rights to ABC294640 and additional intellectual property for all indications. RedHill will pay Apogee an upfront payment of $1.5 million, as well as an additional $4 million in potential milestone payments, and potential tiered royalties starting in the low double-digits.

ABC294640 inhibits SK2, a lipid kinase that catalyzes formation of the lipid signaling molecule sphingosine 1-phosphate (S1P). S1P promotes cancer growth, and proliferation and pathological inflammation, including TNFα signaling and other inflammatory cytokine production. Specifically, by inhibiting the SK2 enzyme, ABC294640 blocks the synthesis of S1P which regulates fundamental biological processes such as cell proliferation, migration, immune cell trafficking and angiogenesis, and are also involved in immune-modulation and suppression of innate immune responses from T cells. Preliminary evidence suggests that because of its specificity for targeting SK2, rather than SK1, ABC294640 may have a better therapeutic ratio than nonspecific sphingosine kinase inhibitors or those targeting only SK1.

Apogee received cumulative funding exceeding $14 million to support the development of ABC294640, primarily through grants and contracts from U.S. federal and state government agencies such as the NIH Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) program, including funding from the National Cancer Institute (NCI), the U.S. Department of Health and Human Services' Biomedical Advanced Research and Development Authority (BARDA), the Department of Defense (DoD), the FDA Office of Orphan Products Development and the Pennsylvania Department of Health.

With this funding Apogee has completed numerous successful pre-clinical studies with ABC294640 in GI-inflammation, radioprotection and oncology models, as well as a successful Phase I clinical study in cancer patients with advanced solid tumors. The open-label, dose-escalation Phase I clinical study demonstrated the drug's safety and assessed its pharmacokinetics and pharmacodynamics in cancer patients with advanced solid tumors.

A Phase Ib/II clinical study with ABC294640 for refractory/relapsed diffuse large B cell lymphoma (DLBCL) is planned to commence in the second quarter of 2015 and will be funded by a $1.5 million grant awarded by the National Cancer Institute under the NIH SBIR/STTR program to Apogee in conjunction with the Louisiana State University Health Science Center. The study will include approximately 30 patients and is intended to assess the tolerability of ABC294640 within the DLBCL population, as well as provide a preliminary evaluation of efficacy. A second Phase II

clinical study of ABC294640 for the treatment of multiple myeloma is planned, subject to funding by a pending grant from the National Cancer Institute. A third Phase II clinical study is being planned by RedHill in order to evaluate ABC294640 as a radio-protectant and radiation enhancer in cancer patients undergoing radiotherapy.

Furthermore, multiple pre-clinical studies funded by the NIH (BARDA) and the DoD have demonstrated activity of ABC294640 against gastrointestinal injury from accidental acute radiation exposure. Therefore, a possible additional indication of protection against accidental radiation exposure may qualify as a medical countermeasure under the Animal Rule, under which no human efficacy studies would be required for FDA approval.

"With a unique mechanism of action, ABC294640 is a novel potential treatment for multiple inflammatory and oncology diseases with strong unmet medical needs. In particular, the drug may be a unique and important treatment for prevention of severe toxicity and inflammation induced in many cancer patients by radiotherapy, while at the same time potentially enhancing the effectiveness of the radiotherapy treatment." **said Dr. Terry Plasse, Medical Director at RedHill**. "We are looking forward to further advancing this promising program into clinical studies, and plan a Phase II study to evaluate the ability of ABC294640 to decrease radiotherapy-induced toxicity."

Adi Frish, Senior VP Business Development and Licensing at RedHill added: "With the acquisition of ABC294640 we adhere to RedHill's multiple-shots-on-goal strategy. The acquisition of this potential blockbuster further expands our late clinical-stage pipeline, reflecting RedHill's solid commitment to patients suffering from inflammatory and gastrointestinal diseases, including cancer, who are in need of new treatment options. Thanks to the thorough development work conducted by Apogee, ABC294640 is supported by extensive pre-clinical, clinical and CMC package, as well as strong intellectual property protection, and we believe in its potential to become a leading treatment for multiple inflammatory, gastrointestinal and oncology indications. We are excited to continue advancing this important novel drug candidate, and would like to thank our new partners at Apogee for entrusting us with the development and commercialization of ABC294640."

Dr. Charles Smith, President and CEO at Apogee stated: "We are very pleased to be collaborating with RedHill to advance the clinical development of ABC294640 for the potential benefit of cancer patients. We view RedHill as an outstanding partner for this effort, and are particularly impressed by their demonstrated commitment to tackling the difficult problem of improving therapeutic outcomes and the quality of life for cancer patients. Additionally, RedHill's expertise with gastrointestinal inflammatory diseases provides a very strong foundation for clinical testing of this drug candidate, and we are looking forward to a successful outcome of this collaboration."

In addition to the three ongoing Phase III studies in GI indications (RHB-105 for *H. pylori* infection, BEKINDA™ (RHB-102) for gastroenteritis, and RHB-104 for Crohn's disease), RedHill's pipeline now includes three proprietary, Phase II-stage, orally-administered, first-in-class small molecule drug candidates intended to treat gastrointestinal and other solid tumor cancers, as well as other potential indications: Mesupron®, a urokinase-type plasminogen activator (uPA) inhibitor,

RP101 (under an option-to-acquire), a heat shock protein 27 (Hsp27) inhibitor, and the newly-acquired SK2 inhibitor, ABC294640.

About ABC294640

ABC294640 is a first-in-class, proprietary sphingosine kinase-2 (SK2) selective inhibitor, administered orally, with anti-cancer and anti-inflammatory activities, targeting a number of potential inflammatory, oncology and gastrointestinal indications. By inhibiting the SK2 enzyme, ABC294640 blocks the synthesis of sphingosine 1-phosphate (S1P), a lipid that promotes cancer growth and pathological inflammation. ABC294640 has completed multiple successful pre-clinical studies in inflammatory, GI, radioprotection and oncology models, as well as a Phase I clinical study in cancer patients with advanced solid tumors.

About Apogee Biotechnology Corp.

Apogee was founded in 2001 as a spinoff from Pennsylvania State University by Charles D. Smith, Ph.D., and is based at the Hershey Center for Applied Research in Hummelstown, Pennsylvania. Apogee's lead technology platform is orally available, small molecule inhibitors of the enzyme sphingosine kinase. The inhibitors have shown excellent preclinical efficacy in numerous tumor and inflammation models. Apogee is privately held, and has been financed to date exclusively through NIH and other grants and contracts.

About RedHill Biopharma Ltd.:

RedHill Biopharma Ltd. (NASDAQ: RDHL) (TASE: RDHL) is an emerging Israeli biopharmaceutical company focused on the development and acquisition of late clinical-stage, proprietary, orally-administered drugs for the treatment of inflammatory and gastrointestinal diseases, including gastrointestinal cancers. RedHill's current pipeline of proprietary products includes: (i) **RHB-105 -** an oral combination therapy for the treatment of *Helicobacter pylori* infection, with an ongoing 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; (iii) **BEKINDA™ (RHB-102) -** a once-daily oral pill formulation of ondansetron with a Phase III study in the U.S. for acute gastroenteritis and gastritis and a European marketing application for chemotherapy and radiotherapy-induced nausea and vomiting submitted in December 2014; (iv) **RHB-106 -** an encapsulated formulation for bowel preparation licensed to Salix Pharmaceuticals, Ltd.; (v) **ABC294640** – a Phase II-stage orally-administered SK2 inhibitor targeting multiple inflammatory-GI diseases and related oncology indications; (vi) **MESUPRON® -** a Phase II-stage uPA inhibitor, administered by oral capsule, targeting gastrointestinal and other solid tumor cancers; (vii) **RP101 -** currently subject to an option-to-acquire by RedHill, RP101 is a Phase II-stage Hsp27 inhibitor, administered by oral tablet, targeting pancreatic and other gastrointestinal cancers; (viii) **RIZAPORT™ (RHB-103) -** an oral thin film formulation of rizatriptan for acute migraines with a U.S. NDA currently under discussions with the FDA and a European marketing application submitted in October 2014; and (ix) **RHB-101 -** a once-daily oral pill formulation of the cardio drug carvedilol.

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 establish and maintain corporate collaborations; (vi) 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; (vii) the implementation of the Company's business model, strategic plans for its business and therapeutic candidates; (viii) 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; (ix) parties from whom the Company licenses its intellectual property defaulting in their obligations to the Company; (x) estimates of the Company's expenses, future revenues capital requirements and the Company's needs for additional financing (xi) competitive companies and technologies within the Company's industry; and (xii) the impact of the political and security situation in Israel on the Company's business. 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 26, 2015. 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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