November 21, 2016

RedHill Biopharma Announces YELIVA™ (ABC294640) Poster Presentation at the 2016 EORTC-NCI-AACR Molecular Targets and Cancer Therapeutics Symposium

- **The poster, to be presented at the upcoming EORTC-NCI-AACR Molecular Targets and Cancer Therapeutics Symposium, describes results from non-clinical studies conducted by Apogee Biotechnology Corp. demonstrating the potential antitumor and anti-inflammatory effects of YELIVA™ (ABC294640) in combination with radiation**

- **YELIVA™ is a proprietary, first-in-class, orally-administered sphingosine kinase-2 (SK2) selective inhibitor, with anti-cancer and anti-inflammatory activities**

- **A Phase I study with YELIVA™ in patients with advanced solid tumors successfully met its primary and secondary endpoints**

- **RedHill is pursuing several Phase I/II clinical studies with YELIVA™ in the U.S., targeting multiple oncology and inflammatory indications**

TEL-AVIV, Israel, Nov. 21, 2016 (GLOBE NEWSWIRE) -- RedHill Biopharma Ltd. (NASDAQ:RDHL) (TASE:RDHL) ("RedHill" or the "Company"), a biopharmaceutical company primarily focused on 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 relating to YELIVA™ (ABC294640), the Company's proprietary, first-in-class, orally-administered sphingosine kinase-2 (SK2) selective inhibitor, at the 2016 EORTC-NCI-AACR Molecular Targets and Cancer Therapeutics Symposium, on November 29, 2016, in Munich, Germany.

The poster, entitled 'Antitumor and Anti-Inflammatory Effects of the Sphingosine Kinase-2 Inhibitor ABC294640 in Combination with Radiation,' was authored by scientists from Apogee Biotechnology Corporation ("Apogee"), the original developers of YELIVA™.

By inhibiting the SK2 enzyme, YELIVA™ blocks the synthesis of sphingosine 1-phosphate (S1P), a lipid signaling molecule that promotes cancer growth and pathological inflammation.

RedHill is pursuing and evaluating, with YELIVA™, multiple clinical programs in oncology, inflammatory and gastrointestinal indications, as well as potential collaboration opportunities with larger pharmaceutical companies to evaluate YELIVA™ as an add-on therapy to their existing oncology treatments.

Results from a Phase I study with YELIVA™ in patients with advanced solid tumors confirmed that the study, conducted at the Medical University of South Carolina Hollings Cancer Center (MUSC), successfully met its primary and secondary endpoints, demonstrating that the drug is well-tolerated and can be safely administered to cancer patients at doses that provide circulating drug levels that are predicted to have therapeutic activity.

A Phase II study with YELIVA™ for the treatment of advanced hepatocellular carcinoma (HCC) was initiated at MUSC Hollings Cancer Center. The study protocol is under FDA review and enrolment is expected to begin by year end 2016. The study is supported by a $1.8 million grant from the National Cancer Institute (NCI) awarded to MUSC and is intended to fund a broad range of studies on the feasibility of targeting sphingolipid metabolism for the treatment of a variety of solid tumor cancers, with additional funding from RedHill.

A Phase Ib/II study with YELIVA™ for the treatment of refractory or relapsed multiple myeloma was initiated at Duke University Medical Center. The study is supported by a $2 million grant from the NCI Small Business Innovation Research Program (SBIR) awarded to Apogee, in conjunction with Duke University, with additional support from RedHill.

A Phase I/II clinical study evaluating YELIVA™ in patients with refractory/relapsed diffuse large B-cell lymphoma was initiated at the Louisiana State University Health Sciences Center in New Orleans in June 2015 and was recently amended to address overall recruitment prospects. The study, which will now also include Kaposi sarcoma patients, is expected to resume by the end of 2016, pending regulatory approval. The study is supported by a grant from the NCI, as well as additional support from RedHill.

A Phase Ib study to evaluate YELIVA™ as a radioprotectant for prevention of mucositis in head and neck cancer patients undergoing therapeutic radiotherapy is planned to be initiated in the first quarter of 2017.

The ongoing studies with YELIVA™ (ABC294640) 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 YELIVA™ (ABC294640):

YELIVA™ (ABC294640) is a Phase II-stage, proprietary, first-in-class, orally-administered, sphingosine kinase-2 (SK2) selective inhibitor with anti-cancer and anti-inflammatory activities. RedHill is pursuing with YELIVA™ multiple clinical programs in oncology, inflammatory and gastrointestinal indications. By inhibiting the SK2 enzyme, YELIVA™ blocks the synthesis of sphingosine 1-phosphate (S1P), a lipid signaling molecule that promotes cancer growth and pathological inflammation. SK2 is an innovative molecular target for anticancer therapy because of its critical role in catalyzing the formation of S1P, which is known to regulate cell proliferation and activation of inflammatory pathways. YELIVA™ was originally developed by U.S.-based Apogee Biotechnology Corp. and completed multiple successful pre-clinical studies in oncology, inflammation, GI and radioprotection models, as well as the ABC-101 Phase I clinical study in cancer patients with advanced solid tumors. The development of YELIVA™ was funded to date primarily by grants and contracts from U.S. federal and state government agencies awarded to Apogee Biotechnology Corp., including the U.S. National Cancer Institute, the U.S. Department of Health and Human Services' Biomedical Advanced Research and Development Authority (BARDA), the U.S. Department of Defense and the FDA Office of Orphan Products Development.

About RedHill Biopharma Ltd.:

RedHill Biopharma Ltd. (NASDAQ:RDHL) (TASE:RDHL) is a 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's pipeline of proprietary products 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 and an ongoing proof-of-concept Phase IIa study for multiple sclerosis; (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 uPA inhibitor, targeting gastrointestinal 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 Germany in October 2015.

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 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; (vii) 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; (viii) the implementation of the Company's business model, strategic plans for its business and therapeutic candidates; (ix) 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; (x) parties from whom the Company licenses

its intellectual property defaulting in their obligations to the Company; (xi) estimates of the Company's expenses, future revenues capital requirements and the Company's needs for additional financing; (xii) competitive companies and technologies within the Company's industry; and (xiii) 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 25, 2016. 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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