



RedHill Biopharma Presents Analyses of Movantik Onset of Action and Symptom Improvement at DDW 2021

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Two new analyses of Movantik® (naloxegol) data, from almost 900 patients, were presented at Digestive Disease Week 2021 evaluating the onset of action and symptom improvement of Movantik for a broad range of challenging opioid-induced constipation (OIC) symptoms

Movantik is an oral peripherally acting mu-opioid receptor antagonist (PAMORA) approved in the U.S. to treat OIC in adult patients with chronic non-cancer pain

TEL AVIV, Israel and RALEIGH, N.C., May 24, 2021 /PRNewswire/ -- [RedHill Biopharma Ltd.](https://www.redhillbiopharma.com) (Nasdaq: RDHL) ("RedHill" or the "Company"), a specialty biopharmaceutical company, today announced presentation at Digestive Disease Week (DDW) 2021 of two new analyses of Movantik® Phase 3 study data demonstrating rapid onset of action and sustained and predictable improvement of key symptoms associated with opioid-induced constipation (OIC).



Both analyses included pooled data from two large, robust, identically designed Phase 3 studies of Movantik (Kodiak 4 and Kodiak 5; NCT01309841/NCT01323790), involving 891 treated patients across two doses (12.5 mg and 25 mg), compared to a total of 546 patients in the placebo arms.

"These two new analyses demonstrate rapid and sustained efficacy of naloxegol for a broad range of bothersome OIC symptoms, positively impacting patient care. Given the challenge of OIC symptoms, early symptom relief is an important therapeutic consideration" **said Prof. William D. Chey, Director of the GI Physiology Laboratory at the University of Michigan, and former Co-Editor-in-Chief of the American Journal of Gastroenterology.**

Poster 1 (Poster Number: Sa059): Naloxegol Achieved Rapid and Sustained Improvement of Opioid-Induced Constipation (OIC) Symptoms: A Pooled Analysis of Two Global Randomized Placebo-Controlled Trials[1]

Given the clinical importance of rapid and sustained OIC symptom response, this analysis aims to evaluate the efficacy of naloxegol (12.5 and 25 mg) on the key symptoms of OIC.

Poster 2 (Poster Number: Sa058): Rapid Onset of Time to First Spontaneous Bowel Movement (SBM) and Predictable Efficacy of Naloxegol: Pooled Analysis of Two Global Randomized Controlled Trials[2]

Given the clinical importance of rapid and predictable symptom response, this analysis aims to characterize the predictability of the onset of response within 48 hours following the first dose of naloxegol (12.5 mg and 25 mg).

"OIC is the most common and debilitating gastrointestinal adverse effect associated with opioid therapy, estimated to affect between 40-80% of the millions of patients taking chronic opioid therapy each year[3]," **said Dr. June Almenoff, MD, Ph.D., RedHill's Chief Scientific Officer.** "Movantik has demonstrated its ability to help overcome one of the main challenges of opioid-based chronic pain management by bringing rapid and sustained relief from OIC."

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^[4], **Talicia®** for the treatment of *Helicobacter pylori* (*H. pylori*) infection in adults^[5], and **Aemcolo®** for the treatment of travelers' diarrhea in adults^[6]. 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®)**, **ABC294640**, a first-in-class SK2 selective inhibitor targeting multiple indications with positive Phase 2 COVID-19 data and an ongoing 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 in a U.S. Phase 2/3 study as treatment for 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 Movantik® (naloxegol)

Movantik® is an opioid antagonist indicated for the treatment of opioid-induced constipation (OIC) in adult patients with chronic non-cancer pain, including patients with chronic pain related to prior cancer or its treatment who do not require frequent (e.g., weekly) opioid dosage escalation.

Important Safety Information About Movantik

Movantik® (naloxegol) is contraindicated in:

- Patients with known or suspected gastrointestinal (GI) obstruction and patients at risk of recurrent obstruction, due to the potential for GI perforation.
- Patients receiving strong CYP3A4 inhibitors (e.g., clarithromycin, ketoconazole) because these medications can significantly increase exposure to naloxegol which may precipitate opioid withdrawal symptoms.
- Patients with a known serious or severe hypersensitivity reaction to Movantik or any of its excipients.

Symptoms consistent with opioid withdrawal, including hyperhidrosis, chills, diarrhea, abdominal pain, anxiety, irritability, and yawning, occurred in patients treated with Movantik. Patients receiving methadone as therapy for their pain condition were observed in the clinical trials to have a higher frequency of GI adverse reactions that may have been related to opioid withdrawal than patients receiving other opioids. Patients with disruptions to the blood-brain barrier may be at increased risk for opioid withdrawal or reduced analgesia. These patients (e.g., multiple sclerosis, recent brain injury, Alzheimer's disease, and uncontrolled epilepsy) were not enrolled in the clinical studies. Take into account the overall risk-benefit profile when using Movantik in such patients. Monitor for symptoms of opioid withdrawal when using Movantik in such patients.

Severe abdominal pain and/or diarrhea have been reported, generally within a few days of initiation of Movantik. Monitor and discontinue if severe symptoms occur. Consider restarting Movantik at 12.5 mg once daily.

Cases of GI perforation have been reported with the use of peripherally acting opioid antagonists, including Movantik. Postmarketing cases of GI perforation, including fatal cases, were reported when Movantik was used in patients at risk of GI perforation (e.g., infiltrative gastrointestinal tract malignancy, recent gastrointestinal tract surgery, diverticular disease including diverticulitis, ischemic colitis, or concomitantly treated with bevacizumab). Monitor for severe, persistent, or worsening abdominal pain; discontinue if this symptom develops.

The most common adverse reactions with Movantik as compared to placebo in clinical trials were: Abdominal pain (21% vs 7%), diarrhea (9% vs 5%), nausea (8% vs 5%), flatulence (6% vs 3%), vomiting (5% vs 4%), headache (4% vs 3%), and hyperhidrosis (3% vs <1%).

Movantik (naloxegol) is indicated for the treatment of opioid-induced constipation (OIC) in adult patients with chronic non-cancer pain, including patients with chronic pain related to prior cancer or its treatment who do not require frequent (e.g., weekly) opioid dosage escalation.

Click here for the [Medication Guide](#) and full [Prescribing Information](#) for Movantik.

You are encouraged to report Adverse Reactions to RedHill Biopharma Inc. at 1-833-ADRHILL (1-833-237-4455) or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

MOVANTIK is a registered trademark of the AstraZeneca group of companies.

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; the risk that the Company will not successfully commercialize its products; as well as risks and uncertainties associated with (i) the initiation, timing, progress and results of the Company's research, manufacturing, pre-clinical 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 pre-clinical studies or clinical trials or the development of a commercial companion diagnostic for the detection of MAP; (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 manufacturing, clinical development, commercialization, and market acceptance of the Company's therapeutic candidates and Talicia®; (v) the Company's ability to successfully commercialize and promote Talicia®, and Aemcolo® and Movantik®; (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 the results obtained with its therapeutic candidates in research, pre-clinical 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; (xii) estimates of the Company's expenses, future revenues, capital requirements and needs for additional financing; (xiii) the effect of patients suffering adverse experiences using investigative drugs under the Company's Expanded Access Program; (xiv) competition from other companies and technologies within the Company's industry; and (xv) the hiring and employment commencement date of executive managers. 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 18, 2021. 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] Naloxegol Achieved Rapid and Sustained Improvement of Opioid-Induced Constipation (OIC) Symptoms: A Pooled Analysis of Two Global Randomized Placebo-Controlled Trials. Chey, William D.; Rockett, Carol B.; Bortey, Enoch; Almenoff, June.

[2] Rapid Onset of Time to First Spontaneous Bowel Movement (SBM) and Predictable Efficacy of Naloxegol: Pooled Analysis of Two Global Randomized Controlled Trials. Chey, William D.; Rockett, Carol B.; Bortey, Enoch; Almenoff, June.

[3] Crockett, Seth D., et al. American Gastroenterological Association Institute guideline on the medical management of opioid-induced constipation, *Gastroenterology* 156.1 (2019): 218-226.

[4] Full prescribing information for Movantik® (naloxegol) is available at: www.Movantik.com.

[5] Full prescribing information for Talicia® (omeprazole magnesium, amoxicillin and rifabutin) is available at: www.Talicia.com.

[6] Full prescribing information for Aemcolo® (rifamycin) is available at: www.Aemcolo.com.

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