May 16, 2019

Rigel Enrolls First Patient in Phase 3 Clinical Trial of Fostamatinib Disodium Hexahydrate in Warm Autoimmune Hemolytic Anemia

Announces resignation of Chief Medical Officer effective August 31, 2019

SOUTH SAN FRANCISCO, Calif., May 16, 2019 /PRNewswire/ -- Rigel Pharmaceuticals, Inc. (Nasdaq: RIGL), today announced that it has enrolled the first patient in a pivotal Phase 3 clinical trial of fostamatinib disodium hexahydrate (fostamatinib) in warm antibody autoimmune hemolytic anemia (AIHA). The clinical trial protocol calls for approximately 80 patients in a 24-week study with topline results projected for early 2021. This disorder affects an estimated 40,000 patients in the U.S., for whom no approved treatment options currently exist.

"Enrolling the first patient in our Phase 3 clinical trial of fostamatinib in warm AIHA is an important milestone in our efforts to develop the first FDA-approved therapy for this disease," stated Raul Rodriguez, president and CEO. "With a clear unmet need, warm AIHA is a very attractive market that is synergistic with our current commercial infrastructure and provides a significant potential opportunity to have a positive impact on patient lives in a second indication."

The Phase 3 clinical trial of fostamatinib is a placebo-controlled study of approximately 80 patients with primary or secondary warm AIHA who have failed at least one prior treatment. The primary endpoint will be a durable hemoglobin response by week 24, defined as Hgb > 10 g/dL and > 2 g/dL greater than baseline and a durability of response measure, with the response not being attributed to rescue therapy. Enrollment is expected to take approximately 12 months. Additional details regarding the Phase 3 clinical trial, including clinical trial sites, can be found by visiting the clinicaltrials.gov website at the following link.

In Rigel's SOAR Phase 2 clinical trial evaluating the safety and efficacy of fostamatinib in patients with warm AIHA who did not receive a meaningful benefit from at least one previous treatment, 9 out of 21 evaluable patients (43%) achieved the primary efficacy endpoint at week 24. One additional patient was a late responder at week 30, for a total of 10 out 21

evaluable patients (48%) that achieved a response. The primary endpoint was defined as a hemoglobin level of greater than 10 g/dl and at least a 2 g/dl increase from baseline. The safety profile was consistent with the existing fostamatinib safety database, including diarrhea and hypertension as the most common adverse events. The open-label extension period of the SOAR Phase 2 study is ongoing.

Currently, fostamatinib is commercially available in the U.S. under the brand name TAVALISSE® (fostamatinib disodium hexahydrate), which is the first and only spleen tyrosine kinase (SYK) inhibitor indicated for the treatment of thrombocytopenia in adult patients with chronic ITP who have had an insufficient response to a previous treatment.

Rigel also announced the resignation of Anne-Marie Duliege, executive vice president and chief medical officer, effective August 31, 2019. The Company has initiated an external search for its next chief medical officer with a focus on expertise in the areas of hematology, oncology, and rare diseases, as well as clinical trial and regulatory approval experience at commercial stage companies.

Mr. Rodriguez stated, "On behalf of the entire company, I want to thank Anne-Marie for her significant contributions during these past few years at Rigel. She played an integral role in gaining our first product approval in the U.S. and positioning us for a potential European approval."

About AIHA

AIHA is a rare, serious blood disorder in which the immune system produces antibodies that result in the destruction of the body's own red blood cells. AIHA affects approximately 40,000 adult patients in the U.S. and can be a severe, debilitating disease. To date, there are no disease-targeted therapies approved for AIHA, despite the unmet medical need that exists for these patients.

About ITP

In patients with ITP, the immune system attacks and destroys the body's own blood platelets, which play an active role in blood clotting and healing. Common symptoms of ITP are excessive bruising and bleeding. People suffering with chronic ITP may live with an increased risk of severe bleeding events that can result in serious medical complications or even death. Current therapies for ITP include steroids, blood platelet production boosters (TPOs) and splenectomy. However, not all patients are adequately treated with existing therapies. As a result, there remains a significant medical need for additional treatment options for patients with ITP.

About TAVALISSE

Indication

TAVALISSE® (fostamatinib disodium hexahydrate) tablets is indicated for the treatment of thrombocytopenia in adult patients with chronic immune thrombocytopenia (ITP) who have had an insufficient response to a previous treatment.

Important Safety Information

Warnings and Precautions

- Hypertension can occur with TAVALISSE treatment. Patients with pre-existing hypertension may be more susceptible to the hypertensive effects. Monitor blood pressure every 2 weeks until stable, then monthly, and adjust or initiate

antihypertensive therapy for blood pressure control maintenance during therapy. If increased blood pressure persists, TAVALISSE interruption, reduction, or discontinuation may be required.
- Elevated liver function tests (LFTs), mainly ALT and AST, can occur with TAVALISSE. Monitor LFTs monthly during treatment. If ALT or AST increase to >3 x upper limit of normal, manage hepatotoxicity using TAVALISSE interruption, reduction, or discontinuation.
- Diarrhea occurred in 31% of patients and severe diarrhea occurred in 1% of patients treated with TAVALISSE. Monitor patients for the development of diarrhea and manage using supportive care measures early after the onset of symptoms. If diarrhea becomes severe (≥Grade 3), interrupt, reduce dose or discontinue TAVALISSE.
- Neutropenia occurred in 6% of patients treated with TAVALISSE; febrile neutropenia occurred in 1% of patients. Monitor the ANC monthly and for infection during treatment. Manage toxicity with TAVALISSE interruption, reduction, or discontinuation.
- TAVALISSE can cause fetal harm when administered to pregnant women. Advise pregnant women the potential risk to a fetus. Advise females of reproductive potential to use effective contraception during treatment and for at least 1 month after the last dose. Verify pregnancy status prior to initiating TAVALISSE. It is unknown if TAVALISSE or its metabolite is present in human milk. Because of the potential for serious adverse reactions in a breastfed child, advise a lactating woman not to breastfeed during TAVALISSE treatment and for at least 1 month after the last dose.

Drug Interactions

- Concomitant use of TAVALISSE with strong CYP3A4 inhibitors increases exposure to the major active metabolite of TAVALISSE (R406), which may increase the risk of adverse reactions. Monitor for toxicities that may require a reduction in TAVALISSE dose.
- It is not recommended to use TAVALISSE with strong CYP3A4 inducers, as concomitant use reduces exposure to R406.
- Concomitant use of TAVALISSE may increase concentrations of some CYP3A4 substrate drugs and may require a dose reduction of the CYP3A4 substrate drug.
- Concomitant use of TAVALISSE may increase concentrations of BCRP substrate drugs (e.g., rosuvastatin) and P-Glycoprotein (P-gp) substrate drugs (e.g., digoxin), which may require a dose reduction of the BCRP and P-gp substrate drug.

Adverse Reactions

- Serious adverse drug reactions in the ITP double-blind studies were febrile neutropenia, diarrhea, pneumonia, and hypertensive crisis, which occurred in 1% of TAVALISSE patients. In addition, severe adverse reactions occurred including dyspnea and hypertension (both 2%), neutropenia, arthralgia, chest pain, diarrhea, dizziness, nephrolithiasis, pain in extremity, toothache, syncope, and hypoxia (all 1%).
- Common adverse reactions (≥5% and more common than placebo) from FIT-1 and FIT-2 included: diarrhea, hypertension, nausea, dizziness, ALT and AST increased, respiratory infection, rash, abdominal pain, fatigue, chest pain, and neutropenia.

Please see www.TAVALISSE.com for full Prescribing Information.

To report side effects of prescription drugs to the FDA,

visit www.fda.gov/medwatch or call 1-800-FDA-1088 (800-332-1088).

TAVALISSE is a registered trademark of Rigel Pharmaceuticals, Inc.

About Rigel (www.rigel.com)

Rigel Pharmaceuticals, Inc., is a biotechnology company dedicated to discovering, developing and providing novel small molecule drugs that significantly improve the lives of patients with immune and hematologic disorders, cancer and rare diseases. Rigel's pioneering research focuses on signaling pathways that are critical to disease mechanisms. The company's first FDA approved product is TAVALISSE® (fostamatinib disodium hexahydrate), the only oral spleen tyrosine kinase (SYK) inhibitor, for the treatment of adult patients with chronic immune thrombocytopenia who have had an insufficient response to a previous treatment. Rigel's current clinical programs include a Phase 3 study of TAVALISSE in autoimmune hemolytic anemia (AIHA) and Phase 1 study of R835, a proprietary molecule from its interleukin receptor associated kinase (IRAK) program. In addition, Rigel has product candidates in clinical development with partners BerGenBio ASA, Daiichi Sankyo, Aclaris Therapeutics, and AstraZeneca.

[1] The product for this use or indication is investigational and has not been proven safe or effective by any regulatory authority.

Forward Looking Statements

This release contains forward-looking statements relating to, among other things, the utility of fostamatinib in other indications, including warm autoimmune hemolytic anemia and other indications; Rigel's belief that fostamatinib may be an important alternative for patients with ITP or AIHA; the potential opportunity for fostamatinib to obtain approval in the EU; the management and advancement of Rigel's clinical programs; and the design, timing and results of Rigel's clinical trials. Any statements contained in this press release that are not statements of historical fact may be deemed to be forward-looking statements. Words such as "planned," "will," "may," "expect," "anticipate," and similar expressions are intended to identify these forward-looking statements. These forward-looking statements are based on Rigel's current expectations and inherently involve significant risks and uncertainties. Actual results and the timing of events could differ materially from those anticipated in such forward looking statements as a result of these risks and uncertainties, which include, without limitation, risks and uncertainties associated with the commercialization and marketing of TAVALISSE; risks that the FDA, EMA or other regulatory authorities may make adverse decisions regarding fostamatinib; risks that TAVALISSE clinical trials may not be predictive of real-world results or of results in subsequent clinical trials; risks that TAVALISSE may have unintended side effects, adverse reactions or incidents of misuses; the availability of resources to develop Rigel's product candidates; market competition; as well as other risks detailed from time to time in Rigel's reports filed with the Securities and Exchange Commission, including its Quarterly Report on Form 10-Q for the quarter ended March 31, 2019. Rigel does not undertake any obligation to update forward-looking statements and expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein.

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