RIBOMIC Announces Positive Top-Line Results from the Phase 1/2a Clinical Trial of RBM-007 (SUSHI Study) in Subjects with Wet Age-Related Macular Degeneration

June 17, 2019

- RBM-007 was well-tolerated with no dose-limiting toxicities, no systemic or ocular serious adverse events.
- Seven out of nine subjects showed evidence of RBM-007 bioactivity, in terms of any vision gain or ≥50 μm improvement in central retinal thickness after a single dose of RBM-007.

TOKYO, June 17, 2019 - RIBOMIC, Inc., a clinical stage pharmaceutical company specializing in aptamer therapeutics and traded on the Mothers Market of the Tokyo Stock Exchange (Code Number: 4591), today announced positive top-line results from its SUSHI study, Phase 1/2a single ascending dose clinical study of RBM-007, anti-FGF2 aptamer, in nine subjects with wet Age-Related Macular Degeneration (wet AMD). SUSHI study achieved the primary endpoint of safety and tolerability, and also demonstrated efficacy trends in favor of RBM-007.

Subjects recruited for the SUSHI Study had wet AMD that was poorly responsive to previous intravitreal anti-VEGF therapy. Through the 56-Day exit visit, excluding one uncompleted case in the last cohort, single dose of RBM-007 demonstrated no dose-limiting toxicities, no systemic or ocular serious adverse events. One subject in Cohort 3 showed anterior inflammation, which was resolved after one day of topical prednisolone treatment. Rescue treatment with anti-VEGF therapy was available for those subjects who met criteria.

Secondary outcomes at the primary study endpoint of 28 days showed evidence of bioactivity of RBM-007. Seven out of nine subjects responded to RBM-007, in terms of any vision gain in Best-Corrected Visual Acuity (BCVA) or ≥50 μm improvement in Central Retinal Thickness on optical coherence tomography (OCT) as reported in case report forms. Vision improved at Day 28 in 2 subjects in Cohort 1, 2 subjects in Cohort 2 and 1 subject in Cohort 3. OCT improvement ≥50 μm at Day 28 was noted in 1 subject in Cohort 2 and all Cohort 3 subjects.
Overall, a single intravitreal injection of RBM-007 in the study eye was well-tolerated and indicated bioactivity in a majority of these wet AMD subjects, who had been poorly responsive to prior anti-VEGF therapy.

Additional data analyses of SUSHI study are on-going and will be presented at future medical meetings. Planning for the next multi-dose Phase 2 clinical trial is underway and enrollment is expected to begin in 3Q of FY2019.

"We are very encouraged by the results of SUSHI study. This was designed as a first-in-human, single-dose safety study and has exceeded our expectations from the standpoint of bioactivity. We will promote the clinical development of RBM-007 to provide wet AMD patients with this new solution as quickly as possible.” said Yoshikazu Nakamura, Ph.D., CEO and president of RIBOMIC Inc.

"SUSHI study has demonstrated that single dose of intravitreal RBM-007 up to 2 mg dose is well-tolerated in subjects with wet AMD. We are pleased to demonstrate evidence of clinical efficacy in several subjects as measured by BCVA and OCT thickness suggesting FGF2 is an important target in the pathogenesis of wet AMD” said Yusuf Ali, Ph.D., CEO of RIBOMIC USA Inc.

"The SUSHI study results demonstrate the ocular safety of intravitreal RBM-007, and the improvements seen in eyes with chronic exudation hold promise for a new therapeutic target in wet AMD” said Robert Bhisitkul, MD. Ph.D., Professor at University of California San Francisco, and an executive scientific advisor of RIBOMIC Inc.

About RBM-007 and development background

RBM-007 is a novel oligonucleotide-based aptamer with potent anti-FGF2 (fibroblast growth factor 2) activity. Currently approved therapies for wet AMD, intravitreal injections of anti-VEGF drugs, have shown dramatic visual benefits for wet AMD patients. However, a significant portion of wet AMD patients exhibit incomplete response to therapy, and over the extended management course can lose vision, with the formation of submacular fibrosis as one risk factor. RIBOMIC investigated a novel therapy for wet AMD

targeting fibroblast growth factor 2 (FGF2), which is implicated in not only angiogenesis but also fibrosis in several diseases, and created RBM-007, a novel oligonucleotide-based aptamer with potent anti-FGF2 activity. RBM-007 is chemically synthesized, and pharmacokinetic studies of RBM-007 in the rabbit vitreous revealed high and relatively long lasting profiles, which are superior to the other approved anti-VEGF drugs. The dual action of RBM-007 (anti-angiogenic and anti-scarring) holds promise as an additive or alternative therapy to anti-VEGF treatments for wet AMD.

About SUSHI study

The Phase 1/2a Safety and ocUlar tolerability of a Single intravitreal (IVT) injection of RBM-007 in subjects witH exudatIve age-related macular degeneration (SUSHI) study is an open-label, dose escalation study with 9 subjects who had previously received ≥3 anti-VEGF treatments without resolution of wet AMD. Study eyes received a single intravitreal injection of RBM-007 in 3 sequential dose cohorts (3 subjects/cohort): 0.2 mg (Cohort 1), 1.0 mg (Cohort 2) and 2.0 mg (Cohort 3). The primary study endpoint was at Day 28, with follow-up through Day 56. Study visits included ETDRS best-corrected visual acuity (BCVA), complete ophthalmologic exam, fluorescein angiography, spectral domain-OCT, OCT-angiography and PK/PD RBM-007 plasma levels. This is the first clinical study of RBM-007. Currently no other FGF2 inhibitors are reported to be in the clinical stage.
See ClinicalTrials.gov for more information.
https://clinicaltrials.gov/ct2/show/NCT03633084

About wet Age-related Macular Degeneration

Wet (exudative) age-related macular degeneration, is the leading cause of blindness in the United States and Europe. It is caused by the formation of abnormal and leaky new blood vessels under the retina, termed choroidal neovascularization. The leakage of fluid from the vessels causes retinal thickening and retinal degeneration including fibrotic scar formation, and leads to severe and rapid loss of vision. While retinal thickening is not the only factor that leads to decreased vision in patients with wet AMD, it is thought to be a contributing factor. In this regard, reduction of retinal thickness is widely used in evaluating efficacy of wet AMD treatment.

ABOUT RIBOMIC

RIBOMIC is a bio-venture company centered on drug discovery. The company is engaged in the field of aptamer therapeutics, which is one type of nucleic acid medicine, a field with much potential for the development of next-generation drugs. The RiboART system, the company's core drug discovery platform, can be used for the discovery of many types of aptamer drugs. RIBOMIC is dedicated to the discovery and development of drugs that target the broad field of unmet medical needs, which encompasses eye disorders, pain and many other problems.
See RIBOMIC website for more information.
https://www.ribomic.com/eng/index.php

Forward-Looking Statements

This announcement contains forward-looking statements relating to current plans, estimates, strategies, belief and the future performance of RIBOMIC. These statements are based on RIBOMIC's current expectations in light of the information and assumptions currently available so that RIBOMIC does not promise the realization and these expectations may differ materially from those discussed in the forward-looking statements. These factors include, but not limited to, i) changes in general economic conditions and in laws and regulations, relating to pharmaceutical markets, ii) currency exchange rate fluctuations, iii) claims and concerns on the product safety and efficacy, iv) completion and discontinuation of clinical trials, v) infringement of RIBOMIC's intellectual property rights by third parties.
Information on pharmaceutical products (including products currently in development), which is included in this press release is not intended to constitute an advertisement or medical advice.