



Kiniksa Announces Lancet Rheumatology Publication of Clinical Outcomes with Mavrilimumab in COVID-19

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HAMILTON, Bermuda, June 17, 2020 (GLOBE NEWSWIRE) -- [Kiniksa Pharmaceuticals, Ltd.](http://www.kiniksa.com) (Nasdaq: KNSA) ("Kiniksa"), a biopharmaceutical company focused on discovering, acquiring, developing and commercializing therapeutic medicines for patients with significant unmet medical need, today announced that clinical outcomes data from the open-label treatment protocol with mavrilimumab, an investigational fully-human monoclonal antibody that targets granulocyte macrophage colony stimulating factor receptor alpha (GM-CSFR α), in severe coronavirus 2019 (COVID-19) pneumonia and hyperinflammation were published in *The Lancet Rheumatology*.

The 28-day clinical outcomes data from the open-label treatment protocol with mavrilimumab are described in a manuscript by De Luca et al¹ entitled, "GM-CSF Blockade with Mavrilimumab in Severe COVID-19 Pneumonia and Systemic Hyperinflammation: A Single-Centre, Prospective Cohort Study," which can be accessed online at the following link: [http://www.thelancet.com/journals/lanrhe/article/PIIS2665-9913\(20\)30170-3/fulltext](http://www.thelancet.com/journals/lanrhe/article/PIIS2665-9913(20)30170-3/fulltext).

"The data published in *The Lancet Rheumatology* are supportive of further development of mavrilimumab in COVID-19 pneumonia," said John F. Paolini, MD, PhD, Chief Medical Officer of Kiniksa. "The mavrilimumab-treated patients experienced earlier and improved clinical outcomes compared to controls, which is particularly impactful given the significant level of baseline disease, as evidenced by the magnitude of severe hypoxia and elevated inflammatory markers, such as C-reactive protein and interleukin-6. We look forward to evaluating mavrilimumab in our global placebo-controlled Phase 2/3 clinical trial in this population."

The publication also includes an accompanying editorial highlighting the similarities between the aberrant immune response in COVID-19-related hyperinflammation and the cytokine release syndrome induced by chimeric antigen receptor T (CAR T) therapy. Furthermore, the editorial is supportive of the rationale for granulocyte macrophage colony stimulating factor (GM-CSF) pathway inhibition in the treatment of immune-mediated conditions where upstream modulation of the inflammatory cascade could be advantageous.

Kiniksa has an active investigational new drug application (IND) with the U.S. Food and Drug Administration (FDA) for a Phase 2/3 clinical trial of mavrilimumab in severe COVID-19 pneumonia and hyperinflammation. The Phase 2/3 clinical trial protocol is a global, randomized, double-blind, placebo-controlled study designed to evaluate the efficacy and safety of mavrilimumab relative to placebo in addition to standard of care therapy in the treatment of patients with severe COVID-19 pneumonia and hyperinflammation. Additionally, an investigator-initiated placebo-controlled study in the U.S. is enrolling patients.

Kiniksa and Kite, a Gilead company, entered into a clinical collaboration evaluating the investigational combination of Yescarta[®] (axicabtagene ciloleucel) and mavrilimumab in relapsed or refractory large B-cell lymphoma. The objective of the trial is to determine the effect of mavrilimumab on the safety of Yescarta. Preclinical evidence shows the potential for interruption of GM-CSF signaling to disrupt CAR T cell-mediated inflammation without disrupting anti-tumor efficacy. The Phase 2 trial is expected to commence in the second half of 2020.

Footnote: ¹Giacomo De Luca, Giulio Cavalli, Corrado Campochiaro, Emanuel Della-Torre, Piera Angelillo, Alessandro Tomelleri, Nicola Boffini, Stefano Tentori, Francesca Mette, Nicola Farina, Patrizia Rovere-Querini, Annalisa Ruggeri, Teresa D'Aliberti, Paolo Scarpellini, Giovanni Landoni, Francesco De Cobelli, John F Paolini, Alberto Zangrillo, Moreno Tresoldi, Bruce C. Trapnell, Fabio Ciceri, Lorenzo Dagna.

About the Treatment Protocol of Mavrilimumab in Severe COVID-19 Pneumonia and Hyperinflammation in Italy

The mavrilimumab open-label treatment protocol was a prospective, interventional, single-active-arm, single-center pilot experience in Italy conducted by Professor Lorenzo Dagna MD, FACP, Head, Unit of Immunology, Rheumatology, Allergy and Rare Diseases IRCCS San Raffaele Scientific Institute and Vita-Salute San Raffaele University in Milan, Italy within a COVID-19 Program directed by Professor Alberto Zangrillo, Head of Department of Anesthesia and Intensive Care of the Scientific Institute San Raffaele Hospital and Università Vita-Salute San Raffaele in Milan, Italy. Patients suffering from severe pulmonary involvement of COVID-19, acute respiratory distress, fever, and clinical and biological markers of systemic hyperinflammation status were treated with a single intravenous dose of mavrilimumab 6mg/kg. The objective of the treatment protocol was to determine whether mavrilimumab in addition to standard of care therapy could improve clinical outcomes in patients with COVID-19 pneumonia and hyperinflammation. A control-group was assembled consisting of contemporaneous patients receiving standard of care therapy and matched for age, sex, comorbidities, baseline inflammatory markers and respiratory dysfunction. Per standard of care therapy, all patients received on admission medical treatment with hydroxychloroquine, azithromycin, and lopinavir/ritonavir as well as respiratory support with supplemental oxygen and/or non-invasive ventilation with continuous positive airway pressure.

About Kiniksa's Phase 2/3 Clinical Trial of Mavrilimumab in Severe COVID-19 Pneumonia and Hyperinflammation

Kiniksa's Phase 2/3 clinical trial protocol is a global, randomized, double-blind, placebo-controlled study encompassing 2 phases of development (Phase 2 and Phase 3). The Phase 2 portion of the trial is expected to enroll approximately 160 patients and is intended to evaluate the efficacy and safety of 2 dose levels of mavrilimumab relative to placebo in patients who have tested positive for COVID-19 and have x-ray/CT evidence of bilateral pneumonia, active or recent fever, and clinical laboratory results indicative of hyperinflammation. The Phase 3 portion is expected to enroll approximately 420 patients and is intended to confirm Phase 2 efficacy and safety findings. In both Phase 2 and Phase 3, patients are expected to be enrolled into 2 cohorts: Cohort 1 will include non-intubated, hospitalized patients who require supplemental oxygen to maintain SpO₂ \geq 92%, (i.e., non-mechanically ventilated patients); and Cohort 2 will include hospitalized patients for whom mechanical ventilation was recently initiated within 48

hours prior to randomization (i.e., ventilated patients). Following screening, enrolled patients in each cohort will be randomized 1:1:1 to receive a single IV infusion of mavrilimumab 6mg/kg or 10 mg/kg or placebo (Day 1). The primary efficacy endpoint for the Phase 2 portion of the trial for Cohort 1 is the proportion of patients alive and without respiratory failure (defined as the need for high flow oxygen, non-invasive ventilation, invasive mechanical ventilation, or extracorporeal membrane oxygenation) at Day 15 and for Cohort 2 is the mortality rate by Day 15. There will be a seamless transition in enrollment of patients in both cohorts between the Phase 2 and Phase 3 portions of the trial. For each cohort, once the last patient in Phase 2 is enrolled, all subsequent patients will be considered Phase 3 patients. Once the last patient in Phase 2 completes Day 15, primary efficacy and safety analyses of the Phase 2 data will be conducted. Following demonstration of efficacy and safety in Phase 2, the Phase 3 portion of the trial will be continued/completed.

About the Investigator-Initiated Placebo-Controlled Study of Mavrilimumab in Severe COVID-19 Pneumonia and Hyperinflammation in the U.S.

The investigator-initiated Phase 2 trial is a randomized, double-blind, placebo-controlled study in the U.S. designed to evaluate the efficacy and safety of mavrilimumab versus placebo on top of standard of care therapy in the treatment of severe COVID-19 pneumonia and hyperinflammation. Standard of care therapy may include, but is not limited to, anti-viral treatment and/or supportive care. The clinical trial is expected to enroll up to approximately 60 patients with diagnosed COVID-19 pneumonia and hyperinflammation, initially at Cleveland Clinic. The clinical trial may expand to other centers depending on case rates in different geographies. Patients will be randomized 1:1 to mavrilimumab 6 mg/kg or placebo. The primary endpoint is the proportion of patients alive and off of supplemental oxygen at Day 14. For more information, refer to [ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT04399980) Identifier: [NCT04399980](https://clinicaltrials.gov/ct2/show/study/NCT04399980).

About Mavrilimumab

Mavrilimumab is an investigational fully-human monoclonal antibody that targets granulocyte macrophage colony stimulating factor receptor alpha (GM-CSFR α). Kiniksa's lead indication for mavrilimumab is giant cell arteritis (GCA), an inflammatory disease of medium-to-large arteries. The company completed enrollment in a Phase 2 proof-of-concept trial in GCA and expects data in the fourth quarter of 2020. Mavrilimumab was dosed in over 550 patients with rheumatoid arthritis through Phase 2b clinical studies in Europe and achieved prospectively-defined primary endpoints of efficacy and safety. Additionally, Kiniksa and Kite, a Gilead company, have a clinical collaboration to evaluate mavrilimumab in combination with Yescarta® (axicabtagene ciloleucel) in patients with relapsed or refractory large B-cell lymphoma. Kiniksa also has an active investigational new drug (IND) application with the U.S. Food and Drug Administration (FDA) for a Phase 2/3 clinical trial evaluating mavrilimumab in severe COVID-19 pneumonia and hyperinflammation.

About Kiniksa

Kiniksa is a biopharmaceutical company focused on discovering, acquiring, developing and commercializing therapeutic medicines for patients suffering from debilitating diseases with significant unmet medical need. Kiniksa's clinical-stage product candidates, riloncept, mavrilimumab, vixarelimab and KPL-404, are based on strong biologic rationale or validated mechanisms, target underserved conditions and offer the potential for differentiation. These pipeline assets are designed to modulate immunological pathways that are implicated across a spectrum of diseases. For more information, please visit www.kiniksa.com.

Forward-Looking Statements

The information contained in this press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In some cases, you can identify forward looking statements by terms such as "may," "will," "should," "expect," "plan," "anticipate," "could," "intend," "target," "project," "contemplate," "believe," "estimate," "predict," "potential" or "continue" or the negative of these terms or other similar expressions, although not all forward-looking statements contain these identifying words. All statements contained in this press release that do not relate to matters of historical fact should be considered forward-looking statements, including without limitation, statements regarding: our Phase 2/3 clinical trial protocol and investigator initiated studies for mavrilimumab in severe COVID-19 pneumonia and hyperinflammation; our clinical collaboration with Kite in CAR T; our assessment of the accompanying comment to the manuscript published in *The Lancet Rheumatology* on the 28-day outcomes data from the treatment protocol with mavrilimumab in severe COVID-19 pneumonia and hyperinflammation in Italy; our plans to evaluate mavrilimumab further in that patient population through placebo-controlled studies; our collaboration with Kite; the timing of our planned clinical trials; our planned clinical trial designs; the timing of data from our clinical trials; and the potential for all of our clinical stage product candidates to offer differentiation.

These forward-looking statements are based on management's current expectations. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including without limitation, the following: the impact of additional data from us, investigator-initiated studies or other companies; the potential inability to replicate in later clinical trials positive results from earlier studies, clinical trials or investigator initiated treatment protocols for mavrilimumab in severe COVID-19 pneumonia and hyperinflammation; the potential for undesirable side effects to be caused by mavrilimumab; changes to our clinical trial protocol or designs; case rates of severe COVID-19 pneumonia and hyperinflammation in various geographies; our reliance on third parties to manufacture our product candidates and conduct our clinical trials and/or perform certain regulatory activities for our product candidates; drug substance and/or drug product shortages; delays or difficulty in activating sites or enrolling patients in our planned clinical trials; potential complications in coordinating among requirements, regulations and guidelines of regulatory authorities across a number of jurisdictions for our planned global clinical trials; the potential impact of the COVID-19 pandemic and measures taken in response to the pandemic; changes in our operating plan and funding requirements; existing or new competition; and our ability to attract and retain qualified personnel.

These and other important factors discussed under the caption "Risk Factors" in our Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission ("SEC") on May 4, 2020 and our other reports subsequently filed with or furnished to the SEC could cause actual results to differ materially from those indicated by the forward-looking statements made in this press release. Any such forward-looking statements represent management's estimates as of the date of this press release. While we may elect to update such forward-looking statements at some point in the future, we disclaim any obligation to do so, even if subsequent events cause our views to change. These forward-looking statements should not be relied upon as representing our views as of any date subsequent to the date of this press release.

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