Kiniksa Announces Early Evidence of Treatment Response with Mavrilimumab in 6 Patients with Severe COVID-19 Pneumonia and Hyperinflammation

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- All 6 patients treated with mavrilimumab showed resolution of fever and did not progress to mechanical ventilation; follow-on controlled study in Italy planned -

- Consortium of U.S. academic sites planning to commence investigator-initiated studies in parallel -

- Evaluating a Phase 2/3 clinical development program pending regulatory feedback and data from treatment experiences -

HAMILTON, Bermuda, March 31, 2020 (GLOBE NEWSWIRE) -- Kiniksa Pharmaceuticals, Ltd. (Nasdaq: KNSA) ("Kiniksa"), a biopharmaceutical company focused on discovering, acquiring, developing and commercializing therapeutic medicines for patients with significant unmet medical need, today announced early evidence of treatment response with mavrilimumab, an investigational fully-human monoclonal antibody that targets granulocyte macrophage colony stimulating factor receptor alpha (GM-CSFRα), in a treatment protocol in patients with severe coronavirus 2019 (COVID-19) pneumonia and hyperinflammation. The treatment protocol was 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 Professor in Anesthesiology and Intensive Care, Università Vita-Salute San Raffaele.

The treatment protocol with the investigational drug mavrilimumab was a prospective, interventional, single-active-arm, single-center pilot experience. 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. The objective was to reduce incidence of progression of acute respiratory failure, the need of mechanical ventilation, and the transfer to the intensive care unit.

To date, 6 patients have been treated with mavrilimumab in the treatment protocol. All patients showed an early resolution of fever and improvement in oxygenation within 1-3 days. None of these patients have progressed to require mechanical ventilation. Mavrilimumab has been well-tolerated.

"Patients with COVID-19 die of a devastating pneumonia caused by a hyperinflammation syndrome," said Professor Lorenzo Dagna. "Last week my team administered mavrilimumab to 6 patients who were experiencing a steep decline of pulmonary status due to COVID-19 pneumonia. All patients responded on treatment, and 3 out of the 6 patients were discharged within 5 days. The data are compelling, and I look forward to continued studies of mavrilimumab in COVID-19."

"These data are the first reported evidence of early treatment response with GM-CSF antagonism in COVID-19," said John F. Paolini, MD, PhD, Chief Medical Officer of Kiniksa. "By blocking GM-CSF signaling, mavrilimumab works upstream of interleukin-6 and potentially addresses the underlying pathophysiology of the hyperinflammation which may be responsible for the severe pneumonia of COVID-19. Controlled clinical studies are required to fully characterize the potential of mavrilimumab in this disease. Building upon our activities over the last several weeks, we continue to evaluate the data and next steps, including a potential Phase 2/3 clinical development program."

Recent data published in a paper titled, "Aberrant pathogenic GM-CSF+ T cells and inflammatory CD14+CD16+ monocyte in severe pulmonary syndrome patients of a new coronavirus,"[1] provide scientific rationale implicating granulocyte macrophage colony stimulating factor (GM-CSF) in the mechanism of excessive and aberrant immune cell infiltration and activation in the lungs thought to contribute significantly to mortality in the disease. The emerging data indicate that patients with COVID-19 have elevated serum levels of pro-inflammatory cytokines, including GM-CSF, and interferon-gamma (IFN-γ), which are thought to be drivers of a cytokine storm that plays a significant role in clinical complications and acute lung injury. Infiltration of immune cells in the lungs of COVID-19 patients, as part of an exaggerated immune response despite falling viral loads, results in severe lung complications. These data suggest that it may be the excessive, non-effective host immune response by pathogenic T cells and inflammatory monocytes that causes the severe lung pathology most often associated with mortality.

Kiniksa and its collaborators are planning the following in the near-term:

- Professor Dagna plans to initiate a prospective, single-center investigator-initiated study based on the initial results from the treatment protocol. The primary objective will be prevention of respiratory failure.
- A consortium of U.S. academic sites plans to initiate parallel prospective, interventional studies with mavrilimumab in patients with severe COVID-19 pneumonia and hyperinflammation.
- Kiniksa is engaging with the U.S. Food and Drug Administration (FDA) regarding the path forward for potential Phase 2/3 clinical development of mavrilimumab in COVID-19 pneumonia.

Mavrilimumab is an investigational agent and is not approved for any indication in any country.

[1] Zhou Y, Fu B, Zheng X, et al. Aberrant pathogenic GM-CSF+ T cells and inflammatory CD14+CD16+ monocytes in severe pulmonary syndrome patients of a new coronavirus. Pre-Print. 2020.

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, rilonacept, mavrilimumab, KPL-716 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 signaling pathways that are implicated across a spectrum of diseases. For more information, please visit www.kiniksa.com.

About Mavrilimumab
Mavrilimumab is an investigational fully-human monoclonal antibody that is designed to antagonize GM-CSF signaling by binding to the alpha subunit of the GM-CSF receptor (GM-CSFRα). Kiniksa's lead indication for mavrilimumab is giant cell arteritis (GCA), an inflammatory disease of medium-to-large arteries. 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.

Forward-Looking Statements
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," "evaluate" 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: the anticipated prospective, interventional, single-active-arm study of mavrilimumab in patients with severe COVID-19; plans by a U.S. consortium of academic sites to commence investigator-initiated studies; our evaluation of data from the on-going treatment experiences; our evaluation of next steps, including a potential Phase 2/3 clinical development program; and our plans to engage with regulatory agencies regarding a path forward for clinical development of mavrilimumab in COVID-19 pneumonia and other acute respiratory conditions.

These forward-looking statements are based on management's current plans, estimates or 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: potential delays or difficulty in enrollment of patients in, and activation or continuation of sites for, investigator-initiated investigational treatment or studies with mavrilimumab in patients with severe COVID-19 pneumonia and hyperinflammation; potential complications in coordinating among requirements, regulations and guidelines of regulatory authorities across a number of jurisdictions for such investigational treatment or studies; potential undesirable side effects caused by mavrilimumab in patients with severe COVID-19 pneumonia and hyperinflammation or otherwise; our potential inability to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities or otherwise producing negative, inconclusive or commercially uncompetitive results; potential for changes between initial data interpretations and later, additional or other data generated from the investigational treatment or studies we announce; impact of additional data from us or other companies; our potential inability to replicate in clinical trials positive results from the investigational treatment or studies with mavrilimumab in patients with severe COVID-19 pneumonia and hyperinflammation; drug substance and/or drug product shortages of mavrilimumab; our reliance on third parties as the sole source of supply of the drug substance and drug products used in our product candidates, including mavrilimumab; our reliance on third parties to conduct investigator-initiated investigational treatment or studies with mavrilimumab in patients with severe COVID-19 pneumonia and hyperinflammation; changes in our operating plan and funding requirements; substantial 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 Annual Report on Form 10-K filed with the Securities and Exchange Commission (SEC) on March 5, 2020 and our other reports subsequently filed with 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 plans, estimates, or expectations 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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