Sorrento Announces Publication of a Series of Novel SARS-CoV-2 Main Protease (MPRO) Inhibitors for Potential Treatment of COVID-19 Patients Infected With SARS-CoV-2 Variants Of Concern, Including Omicron

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- A representative of novel M^{Pro} inhibitor series, MPI8, dually inhibits M^{Pro} and cathepsin L, a key viral entry enzyme, with high potency and selectivity.
- Other analogs of the series have been evaluated by Sorrento to develop an oral antiviral drug for treatment of patients infected with existing and emerging SARS-CoV-2 variants of concern, including Omicron.
- A promising candidate of the series with unique features distinguished from SARS-CoV-2 M^{Pro} inhibitors published by others has been systematically evaluated and advanced to late stage of pre-clinical phase.

SAN DIEGO, Dec. 05, 2021 (GLOBE NEWSWIRE) -- Sorrento Therapeutics, Inc. (Nasdaq: SRNE, "Sorrento") today announced the peer-reviewed publication of a series of novel SARS-CoV-2 M^{Pro} inhibitors with potent activities for both M^{Pro} and cathepsin L, a key host enzyme for SARS-CoV-2 entry into host cells, authored by Dr. Wenshe Ray Liu, professor at Texas A&M University.

The full manuscript is available at: https://pubmed.ncbi.nlm.nih.gov/34242492/

SARS-CoV-2 main protease (M^{Pro}) is a key enzyme for the viral life cycle including virus entry, replication and packaging. M^{Pro} is highly conserved in all discovered SARS CoV-2 variants and is identified as a critical target for developing broad-spectrum antiviral drugs. In addition, experimental evidence has shown that certain host proteases prime the SARS-CoV-2 spike protein for viral packaging, interactions with ACE2, and viral entry into the host. These include two serine proteases, furin and transmembrane protease serine 2 (TMPRSS2) and a cysteine protease cathepsin L. Small molecule medications that inhibit furin, TMPRSS2 and cathepsin L have shown efficacy in inhibiting SARS-CoV-2 replication. In the publication, a representative analog of the series, MPI8, demonstrated dual inhibition of M^{Pro} and cathepsin L with high potency and selectivity (IC_{50} values for M^{Pro} and cathepsin L are 105 nM and 1.2 nM, respectively). Sorrento has collaborated with Professor Liu's lab at Texas A&M University to evaluate analogs in the series to develop an oral anti-COVID drug. A promising analog with features distinguished from current reported SARS-CoV-2 M^{Pro} inhibitors has been systematically evaluated and advanced to a late stage of pre-clinical phase. "We are pleased to work with Prof. Liu's group at Texas A&M University to develop a more effective oral M^{Pro} inhibitor to meet the urgent need for treatment of COVID-19 patients infected with existing and emerging variants. The oral M^{Pro} inhibitor together with Sorrento's other ongoing therapeutic intervention approaches reflect our efforts to create a 'mutation-agnostic' global anti-COVID strategy to combat COVID-19 variants of concern, including the emerging Omicron variant," stated Dr. Henry Ji, Chairman and CEO of Sorrento.

"As a selective inhibitor to both SARS-CoV-2 M^{Pro} and cathepsin L that is key to SARS-CoV-2 entry into the human host cell, MPI8 exerts improved potency to inhibit SARS-CoV-2. So far it is potentially one of the most potent antivirals that have been developed to treat COVID-19," stated Dr. Wenshe Ray Liu, Gradipore Chair in the Department of Chemistry at Texas A&M University.

About Sorrento Therapeutics, Inc.

Sorrento is a clinical and commercial stage biopharmaceutical company developing new therapies to treat cancer, pain (non-opioid treatments), autoimmune disease and COVID-19. Sorrento's multimodal, multipronged approach to fighting cancer is made possible by its extensive immuno-oncology platforms, including key assets such as fully human antibodies ("G-MAB™ library"), immuno-cellular therapies ("DAR-T™"), antibody-drug conjugates ("ADCs"), and oncolytic virus ("Seprehvec™"). Sorrento is also developing potential antiviral therapies and vaccines against coronaviruses, including Abivertinib, COVIGUARD™, COVI-AMG™, COVISHIELD™, COVI-MSC™ and COVIDROPS™; and diagnostic test solutions, includ COVITRACK™, COVISTIX™ and COVITRACE™

Sorrento's commitment to life-enhancing therapies for patients is also demonstrated by our effort to advance a first-in-class (TRPV1 agonist) non-opioid pain management small molecule, resiniferatoxin ("RTX"), and SP-102 (10 mg, dexamethasone sodium phosphate viscous gel) (SEMDEXA™), a novel, viscous gel formulation of a widely used corticosteroid for epidural injections to treat lumbosacral radicular pain, or sciatica, and to commercialize ZTlido® (lidocaine topical system) 1.8% for the treatment of post-herpetic neuralgia. RTX has completed a Phase IB trial for intractable pain associated with cancer and a Phase 1B trial in osteoarthritis patients. SEMDEXA is in a pivotal Phase 3 trial for the treatment of lumbosacral radicular pain, or sciatica. ZTlido® was approved by the FDA on February 28, 2018.

For more information visit www.sorrentotherapeutics.com.

Forward-Looking Statements

This press release and any statements made for and during any presentation or meeting contain forward-looking statements related to Sorrento Therapeutics, Inc., under the safe harbor provisions of Section 21E of the Private Securities Litigation Reform Act of 1995 and subject to risks and uncertainties that could cause actual results to differ materially from those projected. Forward-looking statements include statements regarding Sorrento's plans with respect to its preclinical M^{Pro} inhibitor product candidates, including MPI8; the antiviral properties of Sorrento's M^{Pro} inhibitor

product candidates, including MPI8, and the potential advantage the M^{Pro} inhibitors offer against SARS-CoV-2 and its variants of concern, including the Omicron variant; Sorrento's plans to develop the M^{Pro} inhibitors to address COVID-19; and Sorrento's plans to address COVID-19 variants of concern with a combination of therapeutic intervention approaches, including M^{Pro} inhibitors. Risks and uncertainties that could cause our actual results to differ materially and adversely from those expressed in our forward-looking statements, include, but are not limited to: risks related to Sorrento's technologies and prospects, including, but not limited to risks related to seeking regulatory approval for M^{Pro} inhibitors, including MPI8, against SARS-CoV-2 and its variants of concern; clinical development risks, including risks in the progress, timing, cost, and results of clinical trials and product development programs; risk of difficulties or delays in obtaining regulatory approvals; risks that clinical study results may not meet any or all endpoints of a clinical study and that any data generated from such studies may not support a regulatory submission or approval; risks that prior test, study and trial results may not be replicated in future studies and trials; risks of manufacturing and supplying drug product; risks related to leveraging the expertise of its employees, subsidiaries, affiliates and partners to assist Sorrento in the execution of its therapeutic antibody product candidate strategies; risks related to the global impact of COVID-19; and other risks that are described in Sorrento's most recent periodic reports filed with the Securities and Exchange Commission, including Sorrento's Annual Report on Form 10-K for the year ended December 31, 2020, and subsequent Quarterly Reports on Form 10-Q filed with the Securities and Exchange Commission, including the risk factors set forth in those filings. Investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this release and we undertake no obligation to update any forward-looking statement in this press release except as required by law.

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