Praxis Precision Medicines Provides Updates on Clinical Stage Pediatric Epilepsy Programs

September 7, 2022 at 7:30 AM EDT

BOSTON, Sept. 07, 2022 (GLOBE NEWSWIRE) -- Praxis Precision Medicines, Inc. (NASDAQ: PRAX), a clinical-stage biopharmaceutical company translating genetic insights into the development of therapies for central nervous system (CNS) disorders characterized by neuronal excitation-inhibition imbalance, today announced the plan to start the PRAX-222 EMBRAVE clinical study for the treatment of pediatric patients with early-seizure-onset SCN2A developmental and epileptic encephalopathy (DEE), after the U.S. Food and Drug Administration (FDA) cleared the Investigational New Drug (IND) application for the initial dose cohort. Following collection of the safety and efficacy data from the first cohort of patients in the EMBRAVE study, the data will be evaluated and submitted to the FDA to seek authorization for further dose escalation.

Praxis also announced that it intends to start the PRAX-562 Phase 2 study for the treatment of pediatric patients with SCN2A and SCN8A DEEs outside of the U.S. before the end of 2022, after the FDA placed a clinical hold on its second IND application for PRAX-562. PRAX-562 has been dosed in over 130 healthy volunteers in completed and ongoing studies, including 66 in the U.S. under an initial IND for adult rare headache conditions. Following the clearance of the initial IND last year, Praxis completed the chronic and juvenile toxicology programs and submitted a second IND to the FDA. Praxis has initiated discussions with the FDA to provide clarification about the pre-clinical and clinical data packages in relation to the clinical hold correspondence. Topline results for the PRAX-562 Phase 2 study for the treatment of pediatric patients with SCN2A and SCN8A DEEs are expected in 2023.

“We are eager to start dosing in the PRAX-222 EMBRAVE study and look forward to sharing plans for the upcoming PRAX-562 Phase 2 study,” said Marcio Souza, president and chief executive officer of Praxis. “SCN2A and SCN8A DEEs are devastating forms of epilepsy with no approved treatment options, and every day matters for children living with these diseases. We are proud to offer hope to those in the SCN2A and SCN8A communities and believe that precision medicines such as PRAX-562 and PRAX-222, which are specifically designed for these conditions, have the potential to transform care of rare genetic epilepsies.”

PRAX-222 is an ASO designed to selectively decrease SCN2A gene expression, directly targeting the underlying cause of early-seizure-onset SCN2A DEE to treat seizures and other symptoms in patients with gain-of-function SCN2A mutations. In-vitro studies of PRAX-222 have demonstrated reduction in both SCN2A gene expression and protein levels. In-vivo, PRAX-222 has demonstrated significant, dose-dependent reduction in seizures, improvement in behavioral and locomotor activity, and increased survival in SCN2A mouse models, with potential to be the first disease-modifying treatment. PRAX-222 has received Orphan Drug Designation (ODD) and Rare Pediatric Disease Designation (RPD) from the FDA, and ODD from the European Medicines Agency (EMA) for the treatment of SCN2A-DEE. The PRAX-222 program is ongoing under a collaboration with Ionis Pharmaceutics, Inc. (NASDAQ: IONS) and RogCon, Inc.

PRAX-562 is a first-in-class small molecule in development for the treatment of DEEs as a preferential inhibitor of persistent sodium current, shown to be a key driver of seizure symptoms in early onset SCN2A-DEE and SCN8A-DEE. In-vitro, PRAX-562 has demonstrated superior selectivity for disease-state Na_V channel hyperexcitability and a wider therapeutic window compared to other anti-seizure medicines, with potential for enhanced efficacy and improved tolerability. In-vivo studies of PRAX-562 have demonstrated dose-dependent block of seizures up to complete inhibition of seizure activity in SCN2A and SCN8A mouse models of DEE. PRAX-562 has been generally well-tolerated in three Phase 1 studies and has demonstrated biomarker changes indicative of Na_V channel blocking effects. PRAX-562 has received ODD and RPD from the FDA, and ODD from the EMA for the treatment of SCN2A-DEE and SCN8A-DEE.

About SCN2A-DEE
SCN2A-DEE is a monogenic epilepsy disorder caused by a variant in the SCN2A gene. The SCN2A gene is critical in the formation of sodium channel proteins in the brain, which control the flow of sodium ions into neurons. This movement of sodium ions is a major component of generating electrical signals called action potentials, the way in which the cells communicate. SCN2A-DEE presents with a wide range of phenotypes. Early-onset SCN2A-DEE presents before three months and can lead to profound impact on patients, including drug-resistant seizures, significant cognitive impairment, movement disorders such as dystonia or ataxia and problems in other body systems such as gastrointestinal or ocular. Currently there are no approved treatments for SCN2A-DEE, and the standard-of-care typically involves a regimen of many concurrent anti-seizure medications as well as medications for co-morbidities. Despite these interventions, more than 70% of early-onset SCN2A-DEE patients live with uncontrolled seizures, and approximately 75% live with severe intellectual disability. To learn more about SCN2A-DEE and the EMBRAVE study, please visit https://scn2a.com/.

About SCN8A-DEE
SCN8A-DEE is a rare developmental and epileptic encephalopathy caused by a variant in the SCN8A gene. The SCN8A gene is critical in the formation of sodium channel proteins in the brain, which control the follow of sodium ions into neurons. This movement of sodium ions is a major component of generating electrical signals called action potentials, the way in which the cells communicate. Patients suffer from recurrent, typically drug-resistant seizures which start as early as the first day of life. The seizures can be of multiple different types, up to dozens per day, with poor response to current treatment options. Patients with SCN8A-DEE have significant cognitive disabilities, ranging from moderate to severe; often movement disorders, such as dystonia or ataxia; and problems in other body systems such as gastrointestinal or ocular. SCN8A-DEE patients also may experience autonomic features such as increases or decreases in heart rate, abnormal breathing and cyanosis.

About Praxis
Praxis Precision Medicines is a clinical-stage biopharmaceutical company translating genetic insights into the development of therapies for CNS disorders characterized by neuronal excitation-inhibition imbalance. Praxis is applying insights from genetic epilepsies to both rare and more prevalent

neurological disorders, using our understanding of shared biological targets and circuits in the brain. Praxis has established a broad portfolio with multiple programs, including product candidates across movement disorders, epilepsy and psychiatric disorders, with four clinical-stage product candidates. For more information, please visit www.praxismedicines.com and follow us on LinkedIn and Twitter.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995 and other federal securities laws, including express or implied statements regarding Praxis' future expectations, plans and prospects, including, without limitation, statements regarding expectations, plans and timing for our clinical data, the anticipated timing of our clinical trials and regulatory filings and the development of our product candidates, including the design of our clinical trials and the treatment potential of our product candidates, as well as other statements containing the words "anticipate," "believe," "continue," "could," "endeavor," "estimate," "expect," "anticipate," "intend," "may," "might," "plan," "potential," "predict," "project," "seek," "should," "target," "will" or "would" and similar expressions that constitute forward-looking statements under the Private Securities Litigation Reform Act of 1995.

The express or implied forward-looking statements included in this press release are only predictions and are subject to a number of risks, uncertainties and assumptions, including, without limitation: uncertainties inherent in clinical trials; the expected timing of submissions for regulatory approval or review by governmental authorities; regulatory approvals to conduct trials; risks, uncertainties and assumptions regarding the impact of the continuing COVID-19 pandemic on Praxis' business, operations, strategy, goals and anticipated timelines, Praxis' ability to initiate, enroll, conduct or complete ongoing and planned clinical trials and Praxis' timelines for regulatory submissions; and other risks concerning Praxis' programs and operations as described in its Quarterly Report on Form 10-Q for the quarter ended June 30, 2022 and other filings made with the Securities and Exchange Commission. Although Praxis' forward-looking statements reflect the good faith judgment of its management, these statements are based only on information and factors currently known by Praxis. As a result, you are cautioned not to rely on these forward-looking statements. Any forward-looking statement made in this press release speaks only as of the date on which it is made. Praxis undertakes no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future developments or otherwise.

Investor Contact: Alex Kane Praxis Precision Medicines investors@praxismedicines.com 617-300-8481 Media Contact: Ian Stone Canale Communications Ian.stone@canalecomm.com 619-849-5388