Inozyme Pharma Announces Positive Preliminary Data from Phase 1/2 Clinical Trial of INZ-701 in Subjects with ABCC6 Deficiency (pseudoxanthoma elasticum or PXE)

- Rapid and significant increase in plasma pyrophosphate (PPi) levels observed in all three subjects in lowest dose cohort (0.2 mg/kg) -

- INZ-701 was generally well-tolerated and exhibited a favorable initial safety profile -

- First evidence that INZ-701 increased PPi levels in subjects with functional ENPP1 enzyme -

- Dosing in second dose cohort (0.6 mg/kg) expected to commence in the third quarter of 2022 -

BOSTON, July 19, 2022 (GLOBE NEWSWIRE) -- Inozyme Pharma, Inc. (Nasdaq: INZY), a clinical-stage rare disease biopharmaceutical company developing novel therapeutics for the treatment of abnormal mineralization, today announced positive preliminary biomarker, safety, and pharmacokinetic (PK) data from the first three subjects treated in the Phase 1 portion of its ongoing Phase 1/2 clinical trial of INZ-701 in adult subjects with ABCC6 Deficiency, which presents as pseudoxanthoma elasticum (PXE) in older individuals. At the 0.2 mg/kg dose level of INZ-701, all three subjects showed rapid and significant increases in PPi levels. In preclinical models, PPi was shown to be a key predictive biomarker of therapeutic benefit in ABCC6 Deficiency.

"The data announced today in subjects with PXE serve as a potential proof of principle that elevation of PPi levels can be achieved in those with functional ENPP1 enzyme," said Axel Bolte, MSc, MBA, Inozyme's co-founder, president, and chief executive officer. "ABCC6 Deficiency is a disorder of high unmet medical need with no approved therapies. We are delighted to see that our enzyme replacement therapy, INZ-701, raised PPi levels in subjects with this disorder and believe it has the potential to do so in other disorders that are characterized by low levels of PPi."

Summary of Preliminary Data

- The mean PPi level across the three subjects at baseline was 851 nM.
- The mean PPi level during the 32-day dose evaluation period across the three subjects was 1057 nM, which was within the range (1002-2169 nM) observed in the Company's study of healthy subjects (n=10).
- Among the three subjects, the range of peak PPi levels observed during the 32-day dose evaluation period was 2139-4090 nM.

Preliminary PK and INZ-701 enzymatic activity remained consistent with data previously reported from the Company's ongoing Phase 1/2 trial of INZ-701 in subjects with ENPP1 Deficiency. INZ-701 continued to exhibit a favorable initial safety profile. INZ-701 was generally well-tolerated with no serious adverse events (SAEs) reported, one grade 1 adverse event (AE), and no injection site reactions. The grade 1 AE was not related to INZ-701. Low titers of anti-drug antibodies (ADAs) were observed in one subject at day 32 of the trial, which had no impact on PK or ENPP1 activity. All three subjects from the first cohort enrolled in the open-label Phase 2 48-week extension portion of the trial.

"We continue to be encouraged by the consistent PK data and safety profile of INZ-701 across our two trials and look forward to advancing this trial to the higher dose cohorts," added Yves Sabbagh, Ph.D., Inozyme's senior vice president and chief scientific officer.

Following the planned review of these preliminary data by a data safety monitoring board (DSMB), Inozyme expects to

initiate dosing in the next dose cohort (0.6 mg/kg) in this trial in the third quarter of 2022. The Company plans to report topline data from the ongoing Phase 1/2 clinical trial in ABCC6 Deficiency in the first quarter of 2023.

Data shared in this press release and supporting charts can be accessed from the Investor Relations section of Inozyme's website in the Corporate Presentation file under the *News and Events* tab.

About ABCC6 Deficiency

ABCC6 Deficiency is a rare, severe, inherited disorder caused by mutations in the ABCC6 gene, leading to low levels of PPi. PPi is essential for preventing harmful soft tissue calcification and regulating bone mineralization. ABCC6 Deficiency is a systemic and progressively debilitating condition, which affects more than 67,000 individuals worldwide. Infants with ABCC6 Deficiency are diagnosed with generalized arterial calcification of infancy (GACI) type 2, a condition that resembles GACI type 1, the infant form of ENPP1 Deficiency. In older individuals, ABCC6 Deficiency presents as pseudoxanthoma elasticum (PXE), which is characterized by pathological mineralization in blood vessels and soft tissues clinically affecting the skin, eyes, and vascular system. There are no approved therapies for ABCC6 Deficiency.

INZ-701 in ABCC6 Deficiency Phase 1/2 Clinical Trial Design

The ongoing Phase 1/2 open-label clinical trial is expected to enroll up to nine adult subjects with ABCC6 Deficiency at sites in the United States and Europe. The trial will primarily assess the safety and tolerability of INZ-701 in adult subjects with ABCC6 Deficiency, as well as characterize the pharmacokinetic (PK) and pharmacodynamic (PD) profile of INZ-701, including the evaluation of levels of plasma PPi and other biomarkers. In the Phase 1 dose-escalation portion of the trial, Inozyme is assessing INZ-701 for 32-days at doses of 0.2 mg/kg, 0.6 mg/kg, and 1.8 mg/kg administered via subcutaneous injection twice weekly (after an initial 1-week dosing interval), with three subjects per dose cohort. Doses were selected based on preclinical studies and PK/PD modeling. The Phase 1 dose-escalation portion of the trial seeks to identify a safe, tolerable dose for further development that increases PPi levels. The open-label Phase 2 extension portion of the trial will assess long-term safety, pharmacokinetics, and pharmacodynamics of continued treatment with INZ-701 for up to 48 weeks, during which subjects may receive doses of INZ-701 at home depending on site-specific protocols. Exploratory endpoints will include evaluations of vascular, ophthalmologic, and physical function as well as patient-reported outcomes.

About INZ-701

INZ-701 is a clinical-stage enzyme replacement therapy in development for the treatment of mineralization disorders of the circulatory system, bones, and kidneys. In preclinical studies, the experimental therapy has shown potential to generate PPi and to restore it to appropriate physiological levels, thereby preventing calcification in the vasculature and kidneys, while at the same time normalizing bone mineralization. Inozyme is developing INZ-701 for certain rare, life-threatening, and devastating genetic disorders such as ENPP1 Deficiency and ABCC6 Deficiency in which PPi levels are below the normal physiological levels. INZ-701 is currently in Phase 1/2 clinical trials for the treatment of ENPP1 Deficiency and ABCC6 Deficiency.

About Inozyme Pharma

Inozyme Pharma, Inc. (Nasdaq: INZY) is a clinical-stage rare disease biopharmaceutical company developing novel therapeutics for the treatment of diseases of abnormal mineralization impacting the vasculature, soft tissue, and skeleton. Through our in-depth understanding of the biological pathways involved in mineralization, we are pursuing the development of therapeutics to address the underlying causes of these debilitating diseases. It is well established that two genes, ENPP1 and ABCC6, play key roles in a critical mineralization pathway and that defects in these genes lead to abnormal mineralization. We are initially focused on developing a novel therapy, INZ-701, to treat the rare genetic diseases of ENPP1 and ABCC6 Deficiencies. INZ-701 is currently in Phase 1/2 clinical trials for the treatment of ENPP1 Deficiency and ABCC6 Deficiency.

Inozyme Pharma was founded in 2017 by Joseph Schlessinger, Ph.D., Demetrios Braddock, M.D., Ph.D., and Axel Bolte, MSc, MBA, with technology developed by Dr. Braddock and licensed from Yale University. For more information, please visit www.inozyme.com.

Cautionary Note Regarding Forward-Looking Statements

Statements in this press release about future expectations, plans, and prospects, as well as any other statements regarding matters that are not historical facts, may constitute "forward-looking statements" within the meaning of The Private Securities Litigation Reform Act of 1995. These statements include, but are not limited to, statements relating to trial results, trial design, trial enrollment, trial dosing, the availability of clinical trial data and the potential benefits of INZ-701. The words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "will," "would," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Any forward-looking statements are based on management's current expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in, or implied by, such forward-looking statements. These risks and uncertainties include, but are not limited to, risks associated with the Company's ability to conduct its ongoing Phase 1/2 clinical trials of INZ-701 for ENPP1 Deficiency and ABCC6 Deficiency; obtain and maintain necessary approvals from the FDA and other regulatory authorities; continue to advance its product candidates in preclinical studies and clinical trials; replicate in later clinical trials positive results found in preclinical studies and early-stage clinical trials of its product candidates; advance the development of its product candidates under the timelines it anticipates in planned and future clinical trials; obtain, maintain, and protect intellectual property rights related to its product candidates; manage expenses; and raise the substantial additional capital needed to achieve its business objectives. For a discussion of other risks and uncertainties, and other important factors, any of which could cause the Company's actual results to differ from those contained in the forward-looking statements, see the "Risk Factors" section in the Company's most recent Annual Report on Form 10-K filed with the Securities and Exchange Commission, as well as discussions of potential risks, uncertainties, and other important factors, in the Company's most recent filings with the Securities and Exchange Commission. In addition, the forward-looking statements included in this press release represent the Company's views as of the date hereof and should not be relied upon as representing the Company's views as of any date subsequent to the date hereof. The Company anticipates that subsequent events and developments will cause the Company's views to change. However, while the Company may elect to update these forward-looking statements at some point in the future, the Company specifically disclaims any obligation to do so.

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