Inozyme Pharma Presents Data from Burden of Illness Study in Patients with ENPP1 Deficiency and ABCC6 Deficiency at the 2021 Annual Clinical Genetics Meeting of the American College of Medical Genetics and Genomics

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- Study results underscore high and shifting disease impacts across age groups, reflecting evolution of disease symptomology -

BOSTON, April 14, 2021 (GLOBE NEWSWIRE) -- Inozyme Pharma, Inc., a rare disease biopharmaceutical company developing novel therapeutics for the treatment of abnormal mineralization disorders, today presented data that highlight the burden of disease for patients and families affected by ENPP1 Deficiency and ABCC6 Deficiency, two devastating and potentially deadly genetic diseases. In a poster entitled, *From the Voice of Patients and Caregivers: Burden of Illness in Infantile Onset ABCC6 and ENPP1 Deficiency (GACI and ARHR2)*, Inozyme and GACI Global reported that patients in different age groups are impacted in different ways, an age-based shift that reflects the progression of these rare genetic diseases. The poster was presented virtually beginning on April 14th at the annual meeting of the American College of Medical Genetics and Genomics (ACMG).

Patients with ENPP1 Deficiency or ABCC6 Deficiency exhibit a range of signs and symptoms that can include arterial calcification, cardiac and neurological involvement, skeletal abnormalities, and hearing loss. ENPP1 Deficiency manifests as generalized arterial calcification of infancy (GACI) type 1 in infants and autosomal recessive hypophosphatemic rickets type 2 (ARHR2) in children and adults. ABCC6 Deficiency is a disease that can lead to an acute form called GACI type 2 in infants and pseudoxanthoma elasticum (PXE) in older patients.

“This study is the first to describe the burden of illness in infantile-onset ABCC6 Deficiency and across the age spectrum in patients with ENPP1 Deficiency,” noted Catherine Nester, Vice President of Physician and Patient Strategies at Inozyme, and one of the authors of the poster presented at ACMG. “Although we knew that the cardiovascular and skeletal complications of these diseases exact a significant burden on patients and families, we were surprised to learn just how burdensome the actual care coordination can be, from securing a diagnosis, to dealing with multiple tests and treatment options, to managing ongoing care from multiple specialists. The knowledge gained from this study will inform our efforts to develop therapies that we hope will ease the burden for patients and families living with these devastating rare genetic diseases.”

Inozyme worked in partnership with GACI Global to conduct the *From the Voice of Patients and Caregivers* study. GACI Global is a patient advocacy organization dedicated to providing hope and education to patients and families affected by GACI and ARHR2. The study collected primary patient-reported outcomes data to determine the disease burden in individuals diagnosed with infantile-onset ABCC6 Deficiency or ENPP1 Deficiency in patients of all ages. A total of 38 respondents from nine countries participated in the study, including six individuals with ABCC6 Deficiency, 12 infants with ENPP1 Deficiency, 13 children with ENPP1 Deficiency, and seven adults with ENPP1 Deficiency. Parents or caregivers responded on behalf of patients younger than 18 years of age. The study included responses from parents or caregivers of 11 deceased patients, 10 of whom died within the first 12 months of life.

The most frequently reported burdens for patients with ENPP1 Deficiency at all time points were:

- bone and joint pain (100% of adult patients, 85% of pediatric patients)
- cardiac issues (86% of adult patients, 85% of pediatric patients)
- mobility issues/fatigue (86% of adult patients, 85% of pediatric patients)

The most frequently reported symptoms for patients with ABCC6 Deficiency were:

- gastrointestinal issues (83%)
- growth and development issues (83%)
- cardiac issues (67%)

The study also assessed the importance of each burden for each cohort using a weighted score approach:

- In the ABCC6 Deficiency cohort, fear of the unknown was the heaviest burden, followed by cardiac issues and difficulty with the hospital experience.
- In the infant ENPP1 Deficiency cohort, cardiac issues were the greatest burden, followed by difficulty with the hospital experience and issues related to growth and development.
- In the pediatric ENPP1 Deficiency cohort, treatments/medications were most burdensome, followed by issues related to hearing loss and stress/anxiety.
- The adult ENPP1 Deficiency cohort was most burdened by issues related to bone/joint pain. Other heavily weighted burdens in this cohort included mobility issues, fatigue, and fear of the unknown.

“From the unthinkable devastation of a new parent losing their child, to cardiac complications for infants, to the complex medical management of cardiovascular and skeletal issues in pediatric patients, and the cumulative impact of cardiovascular and skeletal complications in adults, this study clearly shows that ENPP1 and ABCC6 Deficiencies are chronic and highly morbid diseases that affect patients of all ages, as reflected in the constellation of physical, emotional, and social burdens across the age continuum,” commented Christine O’Brien, co-president of GACI Global and

co-author of the study. “We hope our results spur further study of ABCC6 and ENPP1 Deficiencies, and that improved understanding, diagnosis, and management of these rare genetic diseases will alleviate some of the uncertainty and fear for patients and families.”

About ENPP1 Deficiency
The ENPP1 gene produces a critical enzyme called ectonucleotide pyrophosphatase/phosphodiesterase 1 (ENPP1), which regulates inorganic pyrophosphate (PPi) levels in plasma. PPi is essential for preventing harmful soft tissue calcification and for regulating normal bone mineralization. ENPP1 Deficiency affects patients across the age spectrum and manifests as either generalized arterial calcification of infancy (GACI) type 1 or autosomal recessive hypophosphatemic rickets type 2 (ARHR2). GACI type 1 is a devastating and often fatal disease affecting infants and is characterized by calcification and narrowing of large and medium-sized arteries, resulting in heart failure and death in about half of patients within the first six months of life. Mutations in the ABCC6 gene can also cause an infantile onset of the disease called GACI type 2. ARHR2 manifests in the post-infancy stage and causes rickets, weakened bones, repeated bone fractures, skeletal deformities, short stature, muscle weakness, fatigue, and bone pain.

About ABCC6 Deficiency
The ABCC6 gene encodes a protein called ATP-binding cassette sub-family C member 6, a member of the superfamily of ATP-binding cassette (ABC) transporters. ABC proteins transport various molecules across cellular membranes both within and outside of cells. ABCC6 Deficiency is a rare, inherited disorder caused by mutations in the ABCC6 gene, resulting in decreased or absent activity of the ABCC6 protein. A systemic and progressively debilitating condition estimated to affect more than 67,000 individuals worldwide, ABCC6 Deficiency leads to low levels of pyrophosphate (PPi) and is associated with pathological mineralization in blood vessels and soft tissues throughout the body. These effects can result in devastating medical problems including blindness, life-threatening cardiovascular complications, and skin calcification. Some infants with ABCC6 Deficiency are diagnosed with generalized arterial calcification of infancy (GACI) type 2, a vascular condition that resembles GACI type 1. In older patients, ABCC6 Deficiency presents as pseudoxanthoma elasticum (PXE), a rare, inherited disorder in which individuals develop calcification of soft connective tissues, including in the eyes, cardiovascular system, and skin.

About INZ-701
INZ-701 is an 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 plasma pyrophosphate (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.

Inozyme is preparing to initiate a Phase 1/2 clinical trial in patients with ENPP1 Deficiency in the first half of 2021 and a separate Phase 1/2 clinical trial in patients with ABCC6 Deficiency in mid-2021.

About Inozyme Pharma

Inozyme Pharma (Nasdaq: INZY) is a 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 to treat the rare genetic diseases of ENPP1 and ABCC6 Deficiencies.

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.

About GACI Global
GACI Global is a nonprofit patient advocacy group whose mission is to connect families affected by Generalized Arterial Calcification of Infancy of Hypophosphatemic Rickets caused by ENPP1 or ABCC6 deficiencies to each other and to the medical community. The organization strives to provide current educational resources and supports ongoing research. The goal of this 100% volunteer-run organization is to provide not only information about what complications can occur due to ENPP1 and ABCC6 deficiencies, but to provide hope for families impacted by the condition around the world.

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 the initiation and timing of our future clinical trials, our research and development programs, the availability of preclinical study and clinical trial data, the timing of our regulatory applications and the period over which we believe that our existing cash, cash equivalents and investments will be sufficient to fund our operating expenses. 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 initiate its planned 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, 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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