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National Institutes of Health Awards Grant to SINTX Technologies for Development of 3D Printed Craniomaxillofacial Devices

SALT LAKE CITY, March 10, 2022 (GLOBE NEWSWIRE) -- SINTX Technologies, Inc. (www.sintx.com) (NASDAQ: SINT) ("SINTX" or the "Company"), an original equipment manufacturer of advanced ceramics, announced today a Phase 1 grant of \$300k awarded by the National Institutes of Health (NIH) to develop, design and characterize 3D printed implants for craniomaxillofacial (CMF) applications using a composite of silicon nitride and polyetherketoneketone (SN-PEKK). The Phase I grant represents the second grant awarded to SINTX by the NIH in the past six months.

SINTX will collaborate with Drexel University, Thomas Jefferson University, and the University of Pennsylvania over the next 9-11 months to develop and test a new composite material for implants that combines the flexibility and durability of PEKK with the antibacterial and bone-integrating properties of silicon nitride. If successful, the new material could be used in place of other implant materials with higher failure rates and greatly improve patient outcomes and reduce healthcare costs.

"The continued need for medical imaging compatible 3D printed biomaterials for CMF osteoplasty that can be personalized, promote integration, and prevent infection is significant," said Dr. Ryan Bock, Vice President of Research & Development, SINTX Technologies. "We believe that this high-performance silicon nitride PEKK material is a promising biomaterial for CMF applications because of its antibacterial activity, osseointegration, radiographic imaging, and durability. We're eager to demonstrate proof of concept through this NIH Phase I grant."

The U.S. government funded research grant aims to provide a strong rationale and preliminary data to support the further study and commercialization of 3D printable silicon nitride PEKK composite for CMF implants which could substantially reduce implant failures due to infection and poor bone integration. Today, more than 235,000 Americans undergo CMF surgery annually, with implant failure rates averaging 5.5 percent. Failures are often attributed to infections, poor osseointegration, corrosion, and fracture. Most can be linked to implant materials that underperform in bioactivity, infection control, osseous integration, or mechanical stability.

Americans undergo reconstructive surgery to repair CMF damage due to injury or disease and receive treatment for severe cranial and facial bone injuries using medical implants. Pre-shaped metal, polymer, or bioactive implants are used in cases that require bone repair or replacement; however, those materials often fail due to poor osseointegration; prosthetic infections and material degradation and fracture which often lead to revision surgery, hardware removal, debridement, long-term antibiotic use, and implant replacement. A better

material is needed to overcome these problems and SINTX believes its materials have the potential to accelerate bone healing, reduce potential of infections, eliminate metal toxicity, and enhance radiographic imaging.

Research reported in the “Development and Pre-Clinical Testing of PEKK/Silicon Nitride Composite Craniomaxillofacial Implants” proposal was supported by the Department of Health and Human Sciences of the National Institutes of Health under award number 1R43DE031456-01.

The content included in this release is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

About SINTX Technologies, Inc.

SINTX Technologies is an OEM ceramics company that develops and commercializes advanced ceramics for medical and non-medical applications including armor. The core strength of SINTX Technologies is the manufacturing, research, and development of ceramics for external partners. The Company presently manufactures silicon nitride materials and components in its FDA registered, ISO 13485:2016 certified, and ASD9100D certified manufacturing facility and advanced ceramic materials in its SINTX Armor facility both located in Salt Lake City, Utah.

For more information on SINTX Technologies or its advanced ceramics material platforms, please visit www.sintx.com.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 (PSLRA) that are subject to a number of risks and uncertainties. Risks and uncertainties that may cause such differences to include, among other things: our products may not prove to be as effective as other products currently being commercialized or to be commercialized in the future by competitors; risks inherent in manufacturing and scaling up to commercial quantities while maintaining quality controls; volatility in the price of SINTX’s common stock; the uncertainties inherent in new product development, including the cost and time required to commercialize such product(s); market acceptance of our products once commercialized; SINTX’s ability to raise funding and other competitive developments. Readers are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date on which they are made and reflect management’s current estimates, projections, expectations, and beliefs. There can be no assurance that any of the anticipated results will occur on a timely basis or at all due to certain risks and uncertainties, a discussion of which can be found in SINTX’s Risk Factors disclosure in its Annual Report on Form 10-K, filed with the Securities and Exchange Commission (SEC) on March 22, 2021, and in SINTX’s other filings with the SEC. SINTX undertakes no obligation to publicly revise or update the forward-looking statements to reflect events or circumstances that arise after the date of this report.

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