



## **Exicure Announces Positive Phase 1 Data for Topical Anti-TNF Compound AST-005 in Patients with Mild to Moderate Psoriasis**

October 11, 2016

SKOKIE, Ill., Oct. 11, 2016 (GLOBE NEWSWIRE) -- Exicure, a pioneer in developing Spherical Nucleic Acid (SNA™) constructs as gene regulatory and immunotherapeutic agents, today announced results from the Phase 1 clinical trial of its compound, AST-005, a SNA designed to reduce the expression of tumor necrosis factor messenger RNA (TNF mRNA). TNF is a central driver of psoriasis. The trial evaluated the safety, tolerability, and disease-related biomarkers in chronic plaque psoriasis patients following topical application of three different strengths of AST-005 formulated as a topical gel.

The trial demonstrated that AST-005, based on Exicure's proprietary SNA technology, met the safety and tolerability requirements in patients with mild to moderate psoriasis. In addition to the safety data typically collected from a Phase 1 trial, pharmacodynamics assessments were performed from the treated plaque area. The analysis revealed that treatment with the highest dosing strength of AST-005 gel resulted in a statistically significant decrease in TNF mRNA expression in the psoriatic skin.

"Findings from this successful Phase 1 trial demonstrate that SNA-based drugs, such as AST-005, can regulate gene expression at the mRNA level in human skin. We believe these results provide the proof that SNA technology can potentially be used to regulate gene expression in a variety of local applications, including those in the skin, eye, lung and GI tract," said Dr. David Giljohann, CEO, Exicure. "This result has the potential to revolutionize drug development and patient care because we are demonstrating that with the SNA technology, we can combine the digital drug design aspects of nucleic acid-based therapeutics with the safety and convenience of locally applied therapeutics."

Fifteen patient volunteers with chronic plaque psoriasis were treated for two weeks with AST-005. "We were able to show proof of mechanism for our drug and did so by completing the first trial in patients in three months. This strategy is a template for both developing new drugs using nucleic acid therapeutics via the SNA technology, and showing early in the drug development process that they work as intended," said Dr. Weston Daniel, Director of Program Management, Exicure.

### **About AST-005**

AST-005 is a SNA-based antisense drug designed to selectively reduce tumor necrosis factor (TNF), a pro-inflammatory cytokine, shown to be a key mediator of psoriasis, in the skin following topical application in a gel-based format.

### **ABOUT SPHERICAL NUCLEIC ACIDS**

[Spherical Nucleic Acids \(SNA™\)](#) are nanoscale, spherical arrangements of densely packed and radially oriented nucleic acids. This architecture overcomes one of the most difficult obstacles to nucleic acid based therapeutics: safe and effective delivery into cells and tissues of therapeutic importance without the need for additional physical or chemical methods or components. The SNAs are designed to be extremely potent and highly targeted gene regulation and immune-modulatory agents. SNA technology originated in the lab of Professor Chad A. Mirkin at the Northwestern University International Institute for Nanotechnology.

### **ABOUT EXICURE, INC.**

[Exicure, Inc.](#) is a clinical stage biotechnology company developing a new class of immunomodulatory and gene silencing drugs against validated targets. The company's three-dimensional, spherical nucleic acid (SNA) architecture unlocks the potential of nucleic acid therapeutics in multiple organs. Exicure's lead programs address diseases from inflammatory disorders to oncology. Exicure is based in Skokie, Ill. For more information, please visit <http://www.exicuretx.com>.

CONTACT:Media Contact:Cammy DuongMacDougall Biomedical Communications781-235-3060cduong@macbiocom.com