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# TRANSPOSAGEN BIOPHARMACEUTICALS, INC.

'Leave no traces, only footprints,' may be the standard guidance for observing nature, but when scientists want to learn about gene mutations, leaving footprints can drastically alter the desired outcomes. Transposagen's unique Footprint-Free™ Gene Editing (FFGE) system is the only commercially-available system to surgically alter as little as a single nucleotide without creating unwanted mutations, with the added ability to select for very rare events. FFGE has been demonstrated to be a major advancement for ex-vivo gene therapy applications and will be instrumental in the creation of allogeneic chimeric antigen receptor T-cells, a promising new therapeutic for a variety of cancers. Transposagen has recently assigned all of its genome engineering technologies to a spin out company named Poseida Therapeutics, Inc., which is focused exclusively on human therapeutic development.

**PHASE III SUCCESS**
Transposagen and its sister companies have an expected valuation of over $100 million.

**AGENCIES**
HHS (NIH)

**SNAPSHOT**
Transposagen's customers include many of the top pharmaceutical and biotechnology companies in the world, as well as numerous academic laboratories and the National Institutes of Health.

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"NIH grants with matching funds from the Kentucky SBIR/STTR Matching Funds Program were instrumental to our success," said.Dr. Tseten Yeshi former Director, Research and Development at Transposagen and current Director, Research and Development at new spin out company, Hera Biolabs. "I joined the company in 2011 when we were really small, about 5 people, and were almost entirely running on grants. Those grants helped us when we developed our XTN™ TALEN technology that sold very well and started our reliable commercial revenue streams. These grants really were a spring board for downstream development of footprint free technology."

Today, Transposagen Biopharmaceuticals, Inc. is a worldwide leader in genome engineering technologies and services with applications in therapeutics, research and drug discovery, bioproduction, clinical genetic testing, and agriculture. Transposagen is cash-positive and has demonstrated double or triple digit revenue growth every year for the past four years. The company has tripled the number of employees since 2010 to 22 full time and expects to add another four to eight new full time employees this year, and has had a long and successful record of obtaining federal funding with six projects for a total of over $6 million. The company has also completed a series of private equity funding rounds for over $2 million, and Transposagen and its sister companies have an expected valuation of over $100 million. "With the introduction of TALENs and CRISPR/Cas technologies, the field of Genome Engineering has exploded - recognizing when things happen and the opportunities it present is a critical component of our success," say Dr.

Yeshi. “Being at the forefront, offering innovative technologies first in the market is important. Our leadership has done an excellent job of identifying unmet needs in the field along with the most innovative technologies as they emerge. Staying diligent, actively networking, collaborating, licensing and ultimately developing a strong IP portfolio are critical to our success.”

Transposagen’s products and services include the Footprint-Free™ Gene Editing System, piggyBac™, NextGEN™ CRISPR, XTN™ and RTN™ TALENs, and custom cell lines, stem cells, and animal models. The company has provided off-the-shelf and custom genetically modified rat models to over 50 companies and institutions around the world. In November 2014, Transposagen completed a drug development deal with Johnson & Johnson with the potential for multi-billion dollar revenues. Transposagen, in collaboration with Johnson & Johnson will develop allogeneic Chimeric Antigen Receptor T-cells for cancer therapy.

In early 2015 Transposagen successfully spun out two new companies: Posieda, a therapeutics company and Hera Biolabs, a toxicology and genetic testing company. The company has also expanded its headquarters and added a state-of-the-art cell culture lab that triples its capacity to generate innovative, custom cell Models, and plans to spin out an agricultural company in late 2015. Transposagen’s customers include many of the top pharmaceutical and biotechnology companies in the world, as well as numerous academic laboratories and the National Institutes of Health. Its team of experts understands biomedical research needs and works one-on-one with customers to ensure that they provide the best models and reagents to fit their exact needs.

“The biotech industry model is moving away from conglomorates towards smaller, more specialized and more focused groups. It is more efficient to be highly specialized and it gets things moving faster, whether getting from conceptual ideas to tangible data or evaluating new emerging technologies,” said Yeshi. “Each of the companies, Transposagen, Hera and Posieda are in very specific technical areas, which enable us to attract different customers and investors by being so specialized.”

Transposagen actively promotes interest in STEM in various ways and was highlighted by Second Lady of the U.S., Dr. Jill Biden in February 2012 during her “Community College to Career” tour at Bluegrass Community and Technical College (BCTC) in Lexington, KY, for its involvement with BCTC and by SBA Administrator, Maria Contreras-Sweet. The Administrator singled out Transposagen, to kick-off the 2015 Federal SBIR/STTR Road tour in Louisville KY, for exemplary use of SBIR grants towards exceptional business growth and innovation. Additionally the company is partnering with University of Kentucky in their “Partnering with Research, Industries to Develop (STEM) Educators for College and Career Readiness” program, which develops STEM educators by fostering relationships with scientists and providing hands on experience in research labs.

Transposagen has spun-off two highly specialized sister companies, Poseida Therapeutics, Inc. and Hera Biolabs