TissueGene, Inc.
Cell Technologies

# PRESS RELEASE

## TissueGene Licensee, Kolon Life Science, Partners with Mitsubishi Tanabe Pharma to Develop and Commercialize Invossa™, the World's First Cell-Mediated Gene Therapy for Degenerative Osteoarthritis

Partnership between Kolon Life Science and Mitsubishi Tanabe Gives TissueGene Access to Japan, Asia's Largest and Most Lucrative Osteoarthritis Market

Rockville, MD -- (November 1, 2016): TissueGene, Inc. (TGI), a Maryland-based regenerative medicine company, today announced an exclusive licensing and development agreement between Mitsubishi Tanabe Pharma Corporation of Japan (4508:JP TOKYO) and TissueGene's Asia licensee, Kolon Life Science of Korea (102940:KS KOSDAQ). The agreement between the two companies focuses on the development and commercialization of Invossa™, the world's first cell-mediated gene therapy for degenerative osteoarthritis for the Japanese market. Market forecasts predict that the number of osteoarthritis patients in Japan aged 40 and older amounts to more than 25 million and is expected to accelerate with the aging population.

Under the terms of the agreement, Mitsubishi Tanabe will pay an upfront payment of approximately $24 Million plus additional payments of up to approximately $410 Million upon achievement of certain development, regulatory and commercial milestones, as well as a double-digit sales royalty. The deal amount announced today represents the largest single-territory deal on record for Korea.

Invossa™ is a first-in-class osteoarthritis drug designed to conveniently and effectively treat osteoarthritis of the knee through a single intra-articular injection. Clinical trials completed in Korea and on-going trials in the US have demonstrated pain relief, increased mobility, and improvements in joint structure – offering substantial convenience for osteoarthritis patients who would otherwise be in need of surgery. TissueGene has completed U.S. Phase 2 trials of Invossa™ and received a Special Protocol Assessment ("SPA") designation for Phase 3 trials scheduled to begin in the second quarter of 2017. The US Phase 3 will aim for approval from the US Food and Drug Administration (FDA) as the first disease-modifying osteoarthritis drug (DMOAD). Additional Information can be found at the NIH registry, www.clinicaltrials.gov.

Upon completion of its clinical trials in Korea in July of this year, which successfully verified the safety and efficacy of Invossa™, Kolon Life Science filed for a biologics license application with the Korea Ministry of Food and Drug Safety (MFDS). Similarly, Mitsubishi Tanabe will proceed with Japanese clinical trials and regulatory filings and Kolon Life Science will be responsible for manufacturing activities.

"This license agreement for Invossa™ is significant in that it marks the first key step for global recognition of Korea's first gene-therapy drug," said Kolon Life Science CEO Woo-Sok Lee. "Mitsubishi Tanabe already has expertise and experience in the successful commercialization of Johnson and Johnson's rheumatoid arthritis drug Remicade™ which should boost the potential success of Invossa™ in the Japanese market."

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## About Osteoarthritis

Osteoarthritis (also known as OA) is a common joint disease that most often affects middle-age to elderly people. It is commonly referred to as "wear and tear" of the joints, but we now know that OA is a disease of the entire joint, involving the cartilage, joint lining, ligaments, and bone. It is more common in older people and characterized by breakdown of the cartilage (the tissue that cushions the ends of the bones between joints), bony changes of the joints, deterioration of tendons and ligaments, and various degrees of inflammation of the joint lining (called the synovium). There is no cure for OA and there is a significant need for additional therapies to bridge the treatment gap between palliative care and surgery. For more information see http://www.cdc.gov/arthritis/basics/osteoarthritis.htm.

## About Special Protocol Assessment

The Special Protocol Assessment (SPA) process is a procedure by which the FDA provides official evaluation and written guidance on the design and size of proposed protocols that are intended to form the basis for a new drug application. TissueGene's Invossa™ was given an SPA designation in May, 2015. Final marketing approval depends on the results of efficacy, the adverse event profile and an evaluation of the benefit/risk of treatment demonstrated in the Phase 3 clinical program. The SPA agreement may only be changed through a written agreement between the sponsor and the FDA, or if the FDA becomes aware of a substantial scientific issue essential to product efficacy or safety. For more information on Special Protocol Assessment, please visit www.fda.gov.

## Mitsubishi Tanabe Pharma Corporation

Mitsubishi Tanabe Pharma Corporation is a research-driven pharmaceutical company based in Osaka, Japan. MTPC is taking on the challenge of drug discovery in the fields of autoimmune/inflammatory diseases, central nervous system diseases, diabetes and kidney diseases, and vaccines. To those ends, MTPC is strengthening its R&D pipeline. MTPC contributes to the healthier lives of people around the world through the creation of pharmaceuticals. http://www.mt-pharma.co.jp/e.

## Kolon Life Science

Kolon Life Science has been developing innovative cell and gene therapies including Invossa, the world's first cell-mediated gene therapy for osteoarthritis, since its founding in 2000. In addition to its biopharmaceuticals business, the company is also engaged in the business of providing active pharmaceuticals ingredients (API), eco-chemicals including antimicrobials for personal-care and industrial applications, as well as water-treatment solutions. For more information, please visit www.kolonls.co.kr/eng.

## TissueGene, Inc.

TissueGene, Inc., is a Maryland-based regenerative medicine company specializing in cell and gene therapy. TissueGene's lead product is Invossa™, an allogeneic, cell-mediated gene therapy for osteoarthritis of the knee that has completed Phase II clinical trials in the US. TissueGene has recently reached an agreement with the U.S. Food and Drug Administration regarding a Special Protocol Assessment (SPA) for a Phase 3 clinical trial for Invossa™. Information can be found at the NIH registry, www.clinicaltrials.gov. For additional information about TissueGene, Inc., please visit www.tissuegene.com.