

## BioInvent and Transgene collaborate on next generation oncolytic viruses encoding an anti-CTLA-4 antibody to treat solid tumors

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**Strasbourg, France, and Lund, Sweden, – December 6, 2017** – Transgene (Euronext Paris: TNG), a company that designs and develops viral-based immunotherapies, and BioInvent International AB (OMXS: BINV), focused on the discovery and development of novel and first-in-class immunoregulatory antibodies to treat cancer, have entered a collaboration to co-develop next generation oncolytic virus (OV) candidates encoding an anti-CTLA-4 antibody sequence - potentially with additional transgenes - capable of treating multiple solid tumors.

Under the terms of the agreement Transgene will contribute both its OV design and engineering expertise as well as its proprietary engineered *Vaccinia* virus, derived from its Invir.IO™ platform. These oncolytic viruses are designed to directly and selectively destroy cancer cells by the intracellular replication of the virus in the cancer cell (oncolysis). Oncolysis is important as it induces an immune response against tumors (immunogenic lysis). In addition, the replication of the virus allows the expression of the genes carried by the oncolytic viral genome including therapeutic “weapons” that have been specifically designed to attack the tumor.

BioInvent will provide its cancer biology and antibody expertise to the collaboration as well as anti-CTLA-4 monoclonal antibody coding sequences, generated through its proprietary n-CoDeR/FIRST platforms, which will be encoded from in Transgene’s Invir.IO™ viral vectors. The local expression of such therapeutic payloads in the cancer cell is expected to augment the anti-cancer effects of viral oncolysis, by efficiently modulating the tumor micro-environment and increasing the immunocompetency of the tumor.

Encoding BioInvent’s anti-CTLA-4 antibody sequence in Transgene’s latest improved *Vaccinia* virus, promises to optimize the efficacy of this potent checkpoint inhibitor, while reducing the side effects seen when it is given systemically. There is also the potential for this novel OV product to be significantly more effective than the combination of these single agents. Transgene has generated preclinical proof-of-concept data showing that an oncolytic *Vaccinia* virus encoded with a checkpoint inhibitor demonstrated better overall survival than the corresponding combination as separate single agents.

The collaboration’s research and development costs, as well as the revenues and royalties from candidates generated by the collaboration, will be shared 50:50.

**Philippe Archinard, PhD, Chairman and CEO of Transgene, said:** “We look forward to starting this first, exciting collaboration with BioInvent. We believe that the next generation of multi-functional OVs derived from our Invir.IO™ platform, armed with highly targeted immune modulators such as those engineered by BioInvent, will provide patients with better clinical outcomes. Based on the compelling preclinical data we have generated, we expect the resulting OVs to deliver a significant improvement in overall survival, with an enhanced safety profile when compared to administering an OV and checkpoint inhibitor separately.”

**Commenting on the agreement, Michael Oredsson, CEO of BioInvent, said:** “We are very pleased to announce this first collaboration with Transgene which will allow us to leverage our cancer antibody biology and immuno-oncology expertise. We are looking forward to working with Transgene to generate the next generation OVs capable of expressing immune modulatory antibodies in the tumor, thus enhancing their efficacy and improving their safety profile. We are confident that such next generation oncolytic viruses have the potential to significantly improve treatment of solid tumors.”

## Notes to editors:

### **About BioInvent**

BioInvent International AB (OMXS: BINV) is focused on the discovery and development of novel and first-in-class immuno-regulatory antibodies to treat cancer. The Company's clinical programmes are BI- 1206, currently in a Phase I/II for non-Hodgkin's lymphoma and chronic lymphatic leukaemia and TB- 403, in cooperation with Oncurious, currently in Phase I/II for medulloblastoma. BioInvent has an extensive pre-clinical portfolio based on novel immuno-modulatory antibodies that target regulatory T cells (T-regs) and tumour-associated myeloid cells. In December 2016, the Company signed a strategic research collaboration with Pfizer Inc. BioInvent also works with leading academic institutions including the University of Southampton, Cancer Research UK, and Penn Medicine. BioInvent generates revenues from global partnerships, including Bayer Pharma, Daiichi Sankyo, and Mitsubishi Tanabe Pharma and from its manufacturing facility for the production of antibodies for research through to late- stage clinical trials. More information is available at [www.bioinvent.se](http://www.bioinvent.se)

### **About Transgene**

Transgene S.A. (Euronext: TNG), part of Institut Mérieux, is a publicly traded French biotechnology company focused on designing and developing targeted immunotherapies for the treatment of cancer and infectious diseases. Transgene's programs utilize viral vector technology with the goal of indirectly or directly killing infected or cancerous cells. The Company's lead clinical-stage programs are: TG4010, a therapeutic vaccine against non-small cell lung cancer, Pexa-Vec, an oncolytic virus against liver cancer, and TG4001, a therapeutic vaccine against HPV-positive head and neck cancers. The Company has several other programs in clinical and preclinical development, including TG1050 (chronic hepatitis B) and TG6002 (solid tumors). Transgene is based in Strasbourg, France, and has additional operations in Lyon, as well as a joint venture in China.

Invir.IO™ is a trademark of Transgene.

Additional information about Transgene is available at [www.transgene.fr](http://www.transgene.fr)

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