



## Transgene presents promising new data from its next-generation immunotherapy platforms at AACR 2020

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Strasbourg, France, June 22, 2020, 3:15 p.m. CET – Transgene (Euronext Paris: TNG), a biotech company that designs and develops virus-based immunotherapies for the treatment of cancer, presents its broad viral vector expertise and their potential to transform the fight against cancer at the AACR 2020 Virtual Annual Meeting II.

### **myvac<sup>®</sup>**

Transgene presents data demonstrating that the prediction algorithm used to customize TG4050 for each patient is accurate at identifying immunogenic cancer mutations even among a large set of candidate tumor mutations.

The poster is entitled:

**“Performance of neoantigen prediction for the design of TG4050, a patient specific neoantigen cancer vaccine” (#4566)**

- Because only 1 to 5% of tumor mutations are immunogenic, they can be particularly difficult to identify. To demonstrate the accuracy of the prediction algorithm, Transgene and NEC analyzed 6 tumor samples from patients with non-small cell lung cancer eligible for tumor resection. NSCLC are highly mutated tumors that thus generated a massive amount of data that proved compatible with the machine learning approach.
- More than 86% of top ranked peptides identified were immunogenic. The NEC/Transgene prediction system was also able to identify immunogenic peptides that were missed by netMHCpan 4.0, the industry standard predictor.
- These results demonstrate that the specificity of our approach outperforms the industry standard and are expected to translate in enhanced activity in patients.
- Two PoC Phase 1 clinical trials evaluating TG4050, the first therapeutic vaccine leveraging this algorithm, are ongoing in the USA and in Europe.

The poster can be downloaded on the AACR website and [here](#).

### **Invir.IO<sup>™</sup>**

Transgene is presenting preclinical data on two oncolytic viruses derived from the Invir.IO<sup>™</sup> platform, the clinical-stage BT-001 and the new candidate TG6010.

#### **BT-001**

Transgene and BioInvent are presenting a poster that supports the clinical development of BT-001, an anti-CTLA4 antibody-encoding oncolytic virus, against solid tumors:

**“BT-001, an oncolytic Vaccinia virus armed with a Treg-depletion-optimized recombinant human anti-CTLA4 antibody and GM-CSF to target the tumor microenvironment.” (#5602)**

- Cure rates exceeding 70% were seen in multiple mouse models, demonstrating the powerful therapeutic effect of BT-001 when used as a single agent, providing a solid basis for BT-001’s upcoming clinical development, with a Phase 1 clinical trial expected to start before the end of 2020.

- The anti-CTLA-4 antibody and GM-CSF accumulate in tumors with low systemic exposure. Concentrations of the anti-CTLA-4 antibody in the tumor after intratumoral injection of BT-001 is more than 10-fold higher than after intraperitoneal injection of 3 mg/kg of the recombinant antibody in a xenograft tumor model.
- When tumor cells were re-implanted in mice that had been cured after a first BT-001 treatment, a strong tumor-specific response and long-lasting immune memory were developed by these mice.
- BT-001, even at sub-optimal dose, reinforced the therapeutic activity of anti-PD-1 treatment – opening up potential combinations for powerful dual checkpoint blockade treatment regimens

The poster can be downloaded on the AACR website and [here](#).

More details are available in the press release distributed simultaneously and available on [www.transgene.fr](http://www.transgene.fr).

### **TG6010**

Transgene is also presenting preclinical data obtained with TG6010, an Invir.IO™ based oncolytic virus encoding human cytidine deaminase (hCD) in a poster entitled:

**“Oncolytic Vaccinia Virus expressing Cytidine Deaminase induces DNA damage and shows potent anti-tumor effects” (#4576)**

- In addition to the intrinsic properties of the Invir.IO™ viral vector (superior oncolysis, immunogenic cell death, stimulation of innate and adaptive immune responses), TG6010 directly expresses hCD in the tumor micro-environment.
- hCD is an enzyme that converts cytidine into uridine. Cytidine being one of the 4 nucleotides that compose DNA, it is absolutely necessary to enable cell replication and tumor progression.
- By expressing hCD in the tumor, TG6010 will indirectly deprive cancer cells from the material they need to replicate, leading to DNA instability and ultimately cell death (apoptosis).
- The preclinical data presented at AACR also show that the activity of TG6010 is associated with a significant decrease of available cytidine in the plasma, which resulted in a distant antitumor effect.
- Additional experiments are being conducted to further assess the potential of TG6010 as a single agent and in combination with other treatments that target tumor cells DNA, and DNA repair mechanisms.

The poster can be downloaded on the AACR website and [here](#).

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### **About Transgene**

Transgene (Euronext: TNG) is a publicly traded French biotechnology company focused on designing and developing targeted immunotherapies for the treatment of cancer. Transgene’s programs utilize viral vector technology with the goal of indirectly or directly killing cancer cells.

The Company’s clinical-stage programs consist of two therapeutic vaccines (TG4001 for the treatment of HPV-positive cancers, and TG4050, the first individualized therapeutic vaccine based on the *myvac*® platform) as well as two oncolytic viruses (TG6002 for the treatment of solid tumors, and BT-001, the first oncolytic virus based on the Invir.IO™ platform). With Transgene’s *myvac*® platform, therapeutic vaccination enters the field of precision medicine with a novel immunotherapy that is fully tailored to each individual. The *myvac*® approach allows the generation of a virus-based immunotherapy that encodes patient-specific mutations identified and selected by Artificial Intelligence capabilities provided by its partner NEC.

With its proprietary platform Invir.IO™, Transgene is building on its viral vector engineering expertise to design a new generation of multifunctional oncolytic viruses. Transgene has an ongoing Invir.IO™ collaboration with AstraZeneca.

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

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