BioInvent & Transgene joint JITC publication demonstrates the potential of BT-001 oncolytic virus to provide therapeutic benefit beyond current anti-PD-1/ anti-CTLA-4 immune checkpoint blockade

Preclinical proof-of-concept data published in the January 20, 2022 edition of the *Journal for ImmunoTherapy of Cancer* (JITC)

Lund, Sweden – January 20, 2022 – **BioInvent International AB** ("BioInvent") (Nasdaq Stockholm: BINV), a biotech company focused on the discovery and development of novel and first-in-class immune-modulatory antibodies for cancer immunotherapy, and **Transgene** (Euronext Paris: TNG), a biotech company that designs and develops viral vector-based immunotherapies for the treatment of cancer, today jointly announce the publication of extensive preclinical proof-of-concept data for BT-001 in the *Journal for ImmunoTherapy of Cancer (JITC)*. This peer-reviewed article demonstrates that their co-developed clinical stage product, based on Transgene's patented oncolytic vector and encoding BioInvent's proprietary anti-CTLA-4 antibody, has the potential to provide greater therapeutic benefit than systemically administered anti-CTLA-4 antibodies.

Systemically administered anti-CTLA-4 antibodies, such as the approved ipilimumab, have demonstrated substantial efficacy but also clinically limiting toxicity.

The *JITC* paper provides *in vivo* evidence that vectorized anti-CTLA-4 antibodies delivered intratumorally (i.t.) can improve safety by reducing their systemic exposure. Efficacy may also be improved, with evidence from the immunocompetent murine model showing that vectorized anti-CTLA-4 antibodies have anti-tumoral activity even against 'cold tumors' that are resistant to systemically-delivered checkpoint inhibitors. Furthermore, the precise targeting of the antibody to a unique functional epitope of CTLA-4 provides a higher level of regulatory T cells (Treg) depletion than ipilimumab.

"These strong preclinical data supports the development of our oncolytic virus BT-001 as an effective agent to treat solid tumors. We have vectorized a uniquely targeted anti-CTLA-4 antibody for intratumoral delivery and shown in vivo evidence that this reduces systemic toxicity, addresses 'cold tumors' and provides excellent tumor-selective Treg depletion. We are keenly anticipating progress in our ongoing Phase 1/2a clinical study with BT-001," said **Bjorn Frendéus, Chief Scientific Officer of BioInvent**.

"These data demonstrate the relevance of the approach which is based on combining our respective technologies to fully exploit the synergy between oncolytic vector, targeted delivery of a potent payload targeting immunosuppressive cells, and recruitment of effector T cells. The antitumor properties showed in this *JITC* publication give us great confidence in the results we expect from the further clinical development of BT-001," added **Éric Quéméneur, Chief Scientific Officer of Transgene**.

The safety-relevant data, published in *JITC,* show that a murine vector version of BT-001 delivered sustained levels of CTLA-4-receptor-saturating antibodies within tumors but low, sub-saturating exposure in blood and non-tumor tissue. These antibody levels were associated with high depletion of Tregs in the tumor but the absence of systemic Treg depletion, notably in the spleen.

The study also provides several key insights into likely mechanisms underlying the efficacy of BT-001. Vectorized anti-CTLA-4:

- triggered both Fcγ-receptor-dependent Treg depletion and antigen cross-presentation, mechanisms known to trigger and promote long-lasting, systemic, CD8+ T cell antitumor immunity.
- showed broad antitumor activity, including activity against murine 'cold tumor' models which are resistant to systemic checkpoint inhibitors.
- Showed additive or synergistic anti-tumor activity when combined with anti-PD-1.

The *JITC* paper is titled 'Vectorized Treg-depleting anti-CTLA-4 elicits antigen cross-presentation and CD8+ T cell immunity to reject "cold" tumors' and can be accessed here.

Recruitment in the ongoing Phase 1/2a clinical study of BT-001 (NCT04725331) in Europe is progressing steadily. The trial assesses BT-001 as a single agent and in combination with the PD-1 checkpoint inhibitor pembrolizumab against solid tumors. Initial Phase I data are expected in the first half of 2022.

About BT-001
BT-001 is an oncolytic virus using Transgene's Invir.IO™ platform and its patented large-capacity VVcopTK-RR- oncolytic virus, which has been engineered to encode both a Treg-depleting human recombinant anti-CTLA-4 antibody generated by BioInvent's proprietary n-CoDeR®/F.I.R.S. T™ platforms, and the human GM-CSF cytokine. BT-001 is expected to elicit a much stronger and more effective antitumoral response by selectively targeting the tumor microenvironment. Consequently, by reducing systemic exposure, the safety and tolerability profile of the anti-CTLA-4 antibody is expected to be improved.

BT-001 is being co-developed as part of a 50/50 collaboration on oncolytic viruses between BioInvent and Transgene.

About BioInvent
BioInvent International AB (Nasdaq Stockholm: BINV) is a clinical-stage biotech company that discovers and develops novel and first-in-class immuno-modulatory antibodies for cancer therapy, with currently three drug candidates in four ongoing clinical programs in Phase 1/2 trials

for the treatment of hematological cancer and solid tumors, respectively and a fifth program just initiating clinical development. The Company's validated, proprietary F.I.R.S.T™ technology platform simultaneously identifies both targets and the antibodies that bind to them, generating many promising new drug candidates to fuel the Company's own clinical development pipeline or for additional licensing and partnering.

The Company generates revenues from research collaborations and license agreements with multiple top-tier pharmaceutical companies, as well as from producing antibodies for third parties in the Company's fully integrated manufacturing unit. More information is available at www.bioinvent.com. Follow on Twitter: @BioInvent.

About Transgene
Transgene (Euronext Paris: 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. Follow on Twitter: @TransgeneSA

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This press release contains forward-looking statements, which are subject to numerous risks and uncertainties, which could cause actual results to differ materially from those anticipated. There can be no guarantee that (i) the results of pre-clinical work and prior clinical trials will be predictive of the results of the clinical trials currently underway, (ii) regulatory authorities will agree with the Company's further development plans for its therapies, or (iii) the Company will find development and commercialization partners for its therapies in a timely manner and on satisfactory terms and conditions, if at all. The occurrence of any of these risks could have a significant negative outcome for the Company's activities, perspectives, financial situation, results and development. For a discussion of risks and uncertainties which could cause the Company's actual results, financial condition, performance or achievements to differ from those contained in the forward-looking statements, please refer to the Risk Factors ("Facteurs de Risques") section of the Universal Registration Document, available on the AMF website (http://www.amf-france.org) or on Transgene's website (www.transgene.fr). Forward-looking statements speak only as of the date on which they are made, and Transgene undertakes no obligation to update these forward-looking statements, even if new information becomes available in the future.

Attachments

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