



## **BioInvent announces publication of data in leading cancer journal *Immunity***

### **Interactions with Fc gamma receptors determine efficacy and mechanism-of-action of co-stimulatory checkpoint antibodies**

**Lund, Sweden – November 13, 2018** – BioInvent International AB (OMXS: BINV) announced today the publication of data on the cellular and molecular mechanism-of-action of antibodies to the co-stimulatory immune checkpoint receptor 4-1BB.

The research – published in the next issue of the journal *Immunity* and ahead of print online today – demonstrates that anti-4-1BB antibodies with the ability to engage activating or inhibitory Fc gamma receptors can achieve therapeutic effects through depletion of intratumoral regulatory T cells (Treg), and/or boosting of CD8+ T cell effector function. It was conducted by researchers from the University of Southampton in collaboration with researchers from BioInvent.

Treg depletion and promotion of CD8 effector cell function occurred in a competitive manner, and was limited by the availability of immune cell Fc gamma receptors, which could be overcome by sequential antibody administration or antibody engineering.

Tregs are known to potently suppress anti-tumor immunity, while CD8+ T cells critically contribute to anti-tumor immunity.

“Together with our collaborator at the University of Southampton, we continue to advance the understanding of how antibody interactions with Fc gamma receptors determine the efficacy and mechanism-of-action of immune checkpoint antibodies in cancer immunotherapy”, says Björn Frendeus, Chief Scientific Officer. “These data have important implications for how antibodies to co-stimulatory molecules, such as 4-1BB, can be tailored and used to achieve immune activation via complementary but competing pathways”.

This research is the result of a long-standing collaborative effort between the Southampton Antibody and Vaccine Group, Centre for Cancer Immunology, BioInvent and Cancer Research UK, to promote translational research into effective cancer immunotherapies.

#### Reference

Sarah L Buchan, Lang Dou, Marcus Remer, Steven G Booth, Stuart N Dunn, Chester Lai, Monika Semmrich, Ingrid Teige, Linda Mårtensson, Christine A Penfold, HT Claude Chan, Jane E Willoughby, C. Ian Mockridge, Lekh N Dahal, Kirstie LS Cleary, Sonya James, Anne Rogel, Päivi Kannisto, Mats Jernetz, Emily L Williams, Eugene Healy, J Sjeef Verbeek, Peter WM Johnson, Björn Frendeus, Mark S Cragg, Martin J Glennie, Juliet C Gray, Aymen Al-Shamkhani and Stephen A Beers. *Antibodies to costimulatory receptor 4-1BB enhance anti-tumor immunity via T regulatory cell depletion and promotion of CD8 T cell effector function. Immunity DOI: <https://doi.org/10.1016/j.immuni.2018.09.014>*

Information is also available in a [press release](#) from University of Southampton.

#### **About Immunity**

*Immunity* is a monthly journal which publishes research articles and reviews of general interest in the entire discipline of immunology. It is published by Cell Press and was established in 1994.

#### **About BioInvent**

BioInvent International AB (OMXS: BINV) is focused on the discovery and development of novel and first-in-class immuno-modulatory antibodies to treat cancer. The Company's lead program is BI-1206, currently in Phase I/II for non-Hodgkin lymphoma and chronic lymphatic leukemia. BioInvent's pre-clinical portfolio is focused on targeting key immune suppressive cells and pathways of the tumor microenvironment, including regulatory T cells, tumor-associated myeloid cells and mechanisms of antibody drug-resistance. The Company has a strategic research collaboration with Pfizer Inc., and

partnerships with Transgene, Bayer Pharma, Daiichi Sankyo, and Mitsubishi Tanabe Pharma. BioInvent generates near term revenues from its fully integrated manufacturing unit producing antibodies for third parties for research through to late-stage clinical trials. More information is available at [www.bioinvent.se](http://www.bioinvent.se).

#### **About University of Southampton**

The University of Southampton drives original thinking, turns knowledge into action and impact, and creates solutions to the world's challenges. It is among the top 100 institutions globally (QS World University Rankings 2019). Its academics are leaders in their fields, forging links with high-profile international businesses and organisations, and inspiring a 24,000-strong community of exceptional students, from over 135 countries worldwide. Through its high-quality education, the University helps students on a journey of discovery to realise their potential and join its global network of over 200,000 alumni. [www.southampton.ac.uk](http://www.southampton.ac.uk).

#### **About Cancer Research UK**

Cancer Research UK is the world's leading cancer charity dedicated to saving lives through research. Cancer Research UK's pioneering work into the prevention, diagnosis and treatment of cancer has helped save millions of lives. Cancer Research UK receives no funding from the UK government for its life-saving research. Every step it makes towards beating cancer relies on vital donations from the public. Cancer Research UK has been at the heart of the progress that has already seen survival in the UK double in the last 40 years. Today, 2 in 4 people survive their cancer for at least 10 years. Cancer Research UK's ambition is to accelerate progress so that by 2034, 3 in 4 people will survive their cancer for at least 10 years. Cancer Research UK supports research into all aspects of cancer through the work of over 4,000 scientists, doctors and nurses. Together with its partners and supporters, Cancer Research UK's vision is to bring forward the day when all cancers are cured. *For further information about Cancer Research UK's work or to find out how to support the charity, please call +44 300 123 1022 or visit [www.cancerresearchuk.org](http://www.cancerresearchuk.org). Follow us on Twitter and Facebook.*

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*The press release contains statements about the future, consisting of subjective assumptions and forecasts for future scenarios. Predictions for the future only apply as the date they are made and are, by their very nature, in the same way as research and development work in the biotech segment, associated with risk and uncertainty. With this in mind, the actual outcome may deviate significantly from the scenarios described in this press release.*

