



## PRESS RELEASE

### **to-BBB presents and publishes data on 2B3-201 for neuroinflammation and receives Innovation Credit for product development**

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to-BBB, the Dutch brain drug delivery company, has published data on its second product, 2B3-201 for neuroinflammation in the *Journal of Controlled Release*. These data will also be presented at this week's Controlled Release Society conference in Quebec. The Dutch government has recently awarded an Innovation Credit to support further development of 2B3-201.

to-BBB's product 2B3-201 (brain-targeted liposomal methylprednisolone) is being developed for neuroinflammation, which plays an important role in several brain diseases. Together with the Blood-Brain Barrier group at the VU Medical Center in Amsterdam, to-BBB has investigated the efficacy of 2B3-201 in an animal model of Multiple Sclerosis (MS). The outcomes of this study will be presented at the Annual Meeting of the Controlled Release Society in Quebec, Canada (Appeldoorn et al.) and have just been published in the *Journal of Controlled Release* (Gaillard et al., 2012; <http://www.ncbi.nlm.nih.gov/pubmed/22732475>). In addition to MS, 2B3-201 has also shown therapeutic benefit in models of neuropathic pain, lysosomal storage diseases and ALS.

"We are excited to share these data of 2B3-201" says Pieter Gaillard, Chief Scientific Officer of to-BBB. "The enhanced brain delivery and longer half-life of the formulation lowers the required systemic dose, reducing the well-known acute and chronic side effects of glucocorticoids. Therefore, 2B3-201 can provide a more effective and convenient treatment option for patients who experience the devastating symptoms of neuroinflammation."

to-BBB is scaling up 2B3-201 with manufacturing partner TTY Biopharm (Taiwan) and will engage in preclinical toxicity studies later this year. This will allow a "first in human" study with 2B3-201 in 2013. The Dutch government agency Agentschap NL has granted support to this product development path with an Innovation Credit, covering 35% of the development costs. This consists of an initial investment of more than €500,000 for the preclinical development phase. The company has an option to apply for additional credits for clinical development of 2B3-201.

to-BBB's drug delivery platform (the G-Technology<sup>®</sup>) safely enhances the delivery of compounds to the brain, across the blood-brain barrier. Its lead product 2B3-101 (brain-targeted liposomal doxorubicin) is currently in a phase I/IIa clinical trial, in patients with primary and metastatic brain tumors.

"We look forward to further develop 2B3-201 for neuroinflammation", says Fredrik Lonnqvist, Chief Medical Officer of to-BBB, "Since our lead product 2B3-101 has safely reached therapeutic dosages in patients, to-BBB is making strong progress with its G-Technology to treat patients with devastating brain diseases."

### **About to-BBB**

to-BBB is a clinical stage biotechnology company focusing on enhanced drug delivery across the blood-brain barrier. The Company is developing novel treatments for devastating brain disorders, such as brain cancer, neurodegenerative diseases and lysosomal storage diseases, by combining existing drugs with the G-Technology<sup>®</sup>, to-BBB's proprietary brain delivery platform. This technology combines the widely used drug delivery approach of pegylated liposomes with the endogenous tripeptide glutathione as targeting ligand in a novel and safe way. Together with several top tier pharma and biotech companies, to-BBB is investigating the versatility of the G-Technology for drugs that are unable to reach the brain at systemically tolerable therapeutic doses. to-BBB is applying the G-Technology for the delivery of doxorubicin for the treatment of brain cancer as its internal lead product 2B3-101.

to-BBB is headquartered in the Netherlands at the Leiden Bio Science Park and established a fully owned subsidiary, to-BBB Taiwan Ltd., in Taipei, Taiwan. Investors in to-BBB include Aescap Venture, Antea Participaties, Jonghoud International and the Industrial Bank of Taiwan Management Corporation (IBTM).

### **About Agentschap NL and the Innovation Credit Scheme**

Agentschap NL ([www.agentschapnl.nl](http://www.agentschapnl.nl)) is an agency of the Dutch Ministry of Economic Affairs, Agriculture and Innovation that promotes sustainable development and innovation with various financial instruments. The Innovation Credit (Innovatiekrediet) scheme is aimed at supporting high risk, and commercially attractive development projects with an interest-bearing loan of which repayment is waived if key technological aspects of the project fail.

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