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NEC, Transgene collaborate for individualized cancer immunotherapy

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NEC and Transgene will co-invest in the first stage of development of an individualized immunotherapy, which includes clinical trials focusing on ovarian cancer and HPV-negative head and neck cancer.

NEC Corporation and Transgene have announced the signing of a Memorandum of Understanding (MoU) for a strategic collaboration aimed at the treatment of solid cancers. The companies will cooperate in clinically assessing the predictive capabilities of NEC's artificial intelligence (AI) and the therapeutic potential of Transgene's myvac MVA-based viral vector platform in an individualized immunotherapy for the treatment of solid cancers. The experimental products from this collaboration are expected to enter clinical trials in 2019.

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Immunotherapy is rapidly becoming the treatment of choice to fight cancer as it activates the patient's own immune system to attack cancer cells.

NEC and Transgene have capitalized on the recent progress in AI and advances in genome sequencing to create individualized immunotherapy, which is adapted to the unique characteristics of each patient's mutational landscape as well as their predicted immune responses. The product is based on a viral vector (MVA) developed by Transgene with a proven clinical safety track record and is known for its efficient immunogenicity and anti-tumor efficacy in patients.

The viral vector will be used to target neoantigens identified using NEC's proprietary algorithm. NEC has been developing solutions in the drug discovery field for close to two decades. NEC's neoantigen prediction system was developed and validated based on publicly available databases, as well as internal wet lab datasets, some of which were already used to identify clinically relevant antigens in other oncology indications.

These planned clinical trials leverage the world-leading expertise and technologies of a network of companies and research centers, including:

NEC's cutting-edge AI technology, "NEC the WISE", for identifying and prioritizing patient-specific neoantigens, and Transgene's unrivaled MVA-based, viral vector technology and the myvac platform.

"The emerging personalized medicine field holds great potential for the application of NEC's core technology, and we are pleased to be working with Transgene with the goal of developing state-of-the-art personalized immunotherapies," said Motoo Nishihara, Senior Vice President, Head of NEC Laboratories.

"Engaging the body's own immune system in the fight against cancer has shown great promise and sparked unprecedented interest among oncology drug makers. This makes it imperative for NEC to become part of the immunotherapy race as soon as possible," said Osamu Fujikawa, Senior Vice President, Business Innovation Unit, NEC Corporation.

"This collaboration brings together artificial intelligence and our expertise in viral vector engineering to enable the development of a truly innovative treatment based on the myvac platform. We believe that our collaboration with NEC will allow us to provide an efficacious and robust therapy for the many patients who have solid tumors and could benefit from this cutting-edge individualized approach, and to successfully advance the development of the myvac platform to the market" said Eric Quemeneur, Pharm.D., Ph.D., Executive VP, Chief Scientific Officer of Transgene.