



SanBio Concludes Joint Research Agreement on ALGERNON, a Chemical Compound that Promotes Neurogenesis

Tokyo, Japan—February 1, 2018—SanBio Company Limited, a scientific leader in regenerative medicine for neurological disorders, today announced it had entered into a joint research agreement with Kyoto University engaged in an ongoing study of ALGERNON, a novel chemical compound that promotes neurogenesis.

ALGERNON (altered generation of neuron) is a new chemical compound named in a study published in 2017 by a research team led by Professor Masatoshi Hagiwara of the Department of Anatomy and Developmental Biology, Kyoto University Graduate School of Medicine. Hagiwara's team found that ALGERNON can help nerve cells grow in the brains of people with Down syndrome, opening up the possibility of treating the condition in utero. One of the causes of Down syndrome is believed to be a decline in the number of nerve cells supplied by neural stem cells, which results in developmental deficiency of the brain structure. In a study using a Down syndrome disease model, Hagiwara's team discovered ALGERNON, a new chemical compound with potential therapeutic effects. The compound has been found to inhibit the activity of the DYRK1A (dual-specificity tyrosine phosphorylation-regulated kinase 1A) gene, whose excessive expression is known to be a significant factor in Down syndrome, and increase the number of neural stem cells to a normal level. ALGERNON has the potential to help restore motor, sensory, and cognitive functions lost as a result of damage or degeneration of nerve cells, because neural stem cells are found in adult as well as embryonic brains.

SanBio is conducting Phase 2 clinical trials of SB623, its proprietary regenerative cell medicine, with chronic ischemic stroke patients in the US and chronic traumatic brain injury patients in Japan and the US. SB623 consists of mesenchymal stem cells derived from adult bone marrow that undergo a genetic modification. It is a stem cell therapy with potential to promote brain tissue regeneration that helps patients with stroke and traumatic brain injury recover lost functions when administered to the area around the injury site. In animal studies where SB623 was administered to the brain, phenomena such as migration of neural stem cells to the injury site, proliferation of neural cells, and angiogenesis were observed.

The joint research project agreed with Kyoto University evaluates the efficacy of ALGERNON as a treatment for nervous system dysfunction caused by ischemic stroke. Kyoto University will oversee the study and perform pharmacological research of ALGERNON, while SanBio will evaluate drug efficacy in an animal model of stroke. By collaborating on this study, Kyoto University and SanBio will take another important step toward developing new treatments for patients struggling with post-stroke symptoms.

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