HUDSON INSTITUTE OF MEDICAL RESEARCH

COMMERCIALISATION OPPORTUNITY

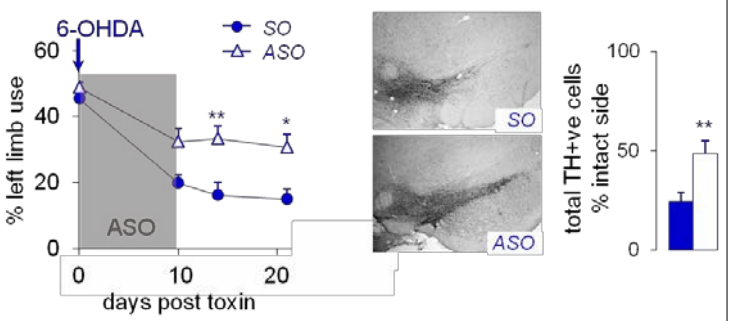
SRY inhibition to treat Parkinson's Disease in males

Summary

Approximately two thirds of Parkinson's disease patients are men. Accumulating evidence indicates that sex-specific genes in the brain may underlie this male bias in Parkinson's disease. In healthy male dopamine neurons, the Y chromosome gene product, SRY (Sex-determining Region Y), modulates dopamine synthesis and motor function. Professor Harley and Dr Lee have thoroughly characterized the critical role of SRY in experimental Parkinson's disease models. They discovered that SRY expression is abnormally elevated in animal models of Parkinson's disease and that blocking SRY - via antisense oligonucleotide treatment - improved motor deficits and diminishes the death of dopamine cells.

Key Data

a. Motor function b. Dopamine cells



Antisense oligonucleotide treatment significantly improved motor function (A) and diminished dopamine cell loss (B) in the 6-OHDA-induced model of Parkinson's disease

6-OHDA, 6-hydroxydopamine toxin; ASO, antisense oligonucleotide (SRY treatment); SO sense oligonucleotide (control) treatment.

Advantages and research strengths

- Expertise with multiple robust models of Parkinson's disease
- Clinically feasible gene therapy treatment approach
- World leaders in SRY research with 25 years experience
- Surgical neurology collaboration with Parkinson's Disease treatment and trials expertise

IP position

A method of treatment patent has been filed which is currently an international patent application under PCT.

Market

Parkinson's Disease

Parkinson's disease is a chronic neurodegenerative condition, which is currently incurable. It is a progressive disease and, although not fatal, severe symptoms significantly impact upon the patient's quality of life. It is associated with old age, and characterized by the loss of neurons in the substantia nigra region of the brain. Major motor symptoms of Parkinson's disease include tremors and difficulty walking.

The global Parkinson's disease prevalence was estimated at 16.1 million in 2011, and after Alzheimer's disease it is the second most common neurodegenerative disease. Treatment is currently focused on alleviating symptoms with dopamine substitution. Deep brain stimulation is also used to treat debilitating motor symptoms. The market size for Parkinson's disease therapies in the US, Europe and Japan is estimated to be approximately $3B. As the elderly population increases this market is expected to grow further.

Opportunity

We aim to confirm SRY as a novel target for neuroprotective therapy in male Parkinson's disease and prepare for initial clinical trials. Successful completion of the current project may also identify SRY in the brain as a target for other male-biased dopamine disorders, such as autism and ADHD. Hudson welcomes opportunities for co-investment or collaboration.

For further information

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