Treatment of spinal cord injury, traumatic brain injury, stroke and neurodegenerative disorders with a monoclonal antibody

Tech ID: 25794 / UC Case 2016-235-0

BACKGROUND

Most people who suffer traumatic spinal cord injuries have incomplete lesions of neural circuits whose function can be partially restored from the reconfiguration of the spared circuits with rehabilitative training. Methods for improving nerve regeneration after spinal cord injury or nerve transplantation are needed for improved patient outcome. Also, neurodegenerative diseases such as amyotrophic lateral sclerosis, Alzheimer's Disease and Parkinson's Disease negatively impact quality of life.

TECHNOLOGY DESCRIPTION

UC San Diego investigators have developed a new monoclonal antibody against a portion of Ryk (part of the Wnt pathway) and a method for inhibiting degeneration of a neuron and potentially treating spinal cord injury and neurodegenerative diseases. The Ryk antibody significantly improved the recovery of fine motor skills in rats with spinal cord injury measured by a reaching and grasping task.

APPLICATIONS

Possible commercial applications include treatment of damaged nerves, for example spinal cord injury, stroke and treatment of neurodegenerative diseases, such as Amyotrophic Lateral Sclerosis, Alzheimer's Disease or Parkinson's Disease.

STATE OF DEVELOPMENT

This monoclonal antibody has been tested in animal models of spinal cord injury.

INTELLECTUAL PROPERTY INFO

A patent application has been filed. This technology is available for licensing.

RELATED MATERIALS

- Biologists Discover New Strategy to Treat Central Nervous System Injury - 04/11/2016
- Ryk controls remapping of motor cortex during functional recovery after spinal cord injury. Hollis ER 2nd, Ishiko N, Yu T, Lu CC, Haimovich A, Tolentino K, Richman A, Tury A, Wang SH, Pessian M, Jo E, Kolodkin A, Zou Y. - 04/11/2016

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20190119386	04/25/2019	2016-235
Patent Cooperation Treaty	Published Application	2017172733	10/05/2017	2016-235

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OTHER INFORMATION

KEYWORDS

spinal cord injury, spinal trauma, neurodegenerative, TBI, Alzheimer Disease, Parkinson's Disease, ALS, stroke

CATEGORIZED AS

- **Biotechnology**
  - Health
- **Medical**
  - Disease: Central Nervous System
  - Research Tools
- **Research Tools**
  - Antibodies

RELATED CASES

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