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

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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 antibodysignificantly improved the recovery of fine motor skills in rats with spinal cord injury measured by a reaching and grasping task. 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.

Related Materials

Biologists Discover New Strategy to Treat Central Nervous System Injury

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.

Application area

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.

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