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P188 as a Treatment for Trauma to the Nervous System

A sterilizable polymer (P188) offers an injectable or topical application for repairing mechanically damaged nerve membranes in spinal cord injuries, providing functional recovery equivalent to current treatments.

Following mechanical injury to the spinal cord, a large number of sensory and motor nerve fibers are disrupted and subsequently destroyed. The major pathology involved in such nerve loss is related to the breakdown of membranes of nerve cell axons, even to the point of complete severance. Polyethylene glycol (PEG) and other copolymers seal nerve membrane defects and breaches caused by direct mechanical damage.

Purdue University researchers have developed a technology that uses poloxamer P188 in spinal cord injury repair applications. P188 can be applied topically to exposed nerve fibers or by intravenous or subcutaneous injection. Similar research has been done with a related polymer, PEG; however, there are several advantages with using P188 in spinal cord injury applications.

Advantages:

-Can be produced in sterile form

-Can be administered by intravenous or subcutaneous injection

-Gives identical functional recovery to topically applied PEG

Potential Applications:

-Medical/Health

-Spinal cord injuries

TRL: 3

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Category
Materials Science & Nanotechnology/Biomedical & Bioinspired Materials
Pharmaceuticals/Computational Drug Delivery & Nanomedicine

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Intellectual Property:

NATL-Patent, 2002-04-24, New Zealand | Utility Patent, 2002-04-24, United States | PCT-Patent, 2002-04-24, WO | NATL-Patent, 2002-04-24, European Patent | Utility Patent, 2002-04-24, Canada | Utility Patent, 2002-04-24, Australia | Utility, 2002-04-24, Japan | DIV-Patent, 2002-04-24, New Zealand | EP-Patent, 2002-04-24, Germany | EP-Patent, 2002-04-24, France | EP-Patent, 2002-04-24, United Kingdom | EP-Patent, 2002-04-24, Italy | EP-Patent, 2002-04-24, Spain | DIV-Patent, 2004-07-28, United States | DIV-Patent, 2006-03-01, Australia | DIV-Patent, 2009-02-23, Japan | CON-Patent, 2009-07-23, United States | DIV-Patent, 2011-05-11, Canada | CON-Patent, 2013-06-07, United States | Utility, N/A, China

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