# Neural Stem Cell Relays for Severe Spinal Cord Injury

## Grant Award Details

Neural Stem Cell Relays for Severe Spinal Cord Injury

**Grant Type:** Quest - Discovery Stage Research Projects

**Grant Number:** DISC2-10665

**Project Objective:** Completion of preclinical proof of concept activities for a human H9-scNSC therapeutic candidate for the treatment of spinal cord injury.

**Investigator:**

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| **Name:** | Mark Tuszynski |
| **Institution:** | University of California, San Diego |
| **Type:** | PI |

**Disease Focus:** Neurological Disorders, Spinal Cord Injury

**Human Stem Cell Use:** Embryonic Stem Cell

**Award Value:** $1,638,900

**Status:** Closed

## Progress Reports

**Reporting Period:** Year 2

**View Report**

## Grant Application Details

**Application Title:** Neural Stem Cell Relays for Severe Spinal Cord Injury

**Public Abstract:**

**Research Objective**

We propose to utilize human neural stem cells to form neuronal relays across sites of severe SCI, restoring function across the site of spinal cord injury.

**Impact**

We will develop a specific type of neural stem cell that is best suited for repairing the injured spinal cord.

**Major Proposed Activities**

- In Vitro Assessment of GMP-compatible H9-scNSC Batches.
- In Vivo Assessment of GMP-compatible H9-scNSC Batches.
- In Vivo Assessment of Disease Modifying Activity over time, Model 1: T10 moderate contusion.
- In Vivo Assessment of Disease Modifying Activity over time, Model 2: T3 severe compression.
- In Vivo Assessment of Disease Modifying Activity over time, Model 1: C5 moderate contusion.
- FDA Pre-pre IND Meeting.

**Statement of Benefit to California:**

Spinal cord injury (SCI) affects approximately 300,000 people in the U.S., with more than 11,000 new injuries per year. This research plan will examine a novel therapeutic strategy for SCI. Neural stem cells will be generated from human embryonic stem cells and grafted into animal models of SCI. We predict neuronal relays will form across a SCI lesion site that will mediate behavioral recovery. These studies will form the basis for clinical translation for the treatment of spinal cord injury.

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