

# IMMUNO MODULATORY MATERIAL FOR BRAIN REPAIR

Published date: Oct. 2, 2019

## Technology description

### SUMMARY

UCLA researchers in the department of chemical and biomolecular engineering have developed a novel material of hyaluronic hydrogel scaffold with heparin nanoparticles to promote brain regeneration and recovery after stroke.

### BACKGROUND

Stroke is the leading cause of disabilities in adults and more than 6 million Americans are living with the long-term consequences of stroke. The brain does not regenerate new tissues and neural connections after cell deaths caused by stroke, leaving behind a cavity and brain scar tissues. Therefore, novel therapies that increase the capacity of regeneration and recovery of brains after stroke are needed to minimize any long-term effect of stroke.

### INNOVATION

A novel material of heparin nanoparticle-containing hyaluronic hydrogel scaffold was created to promote brain tissue repair after stroke. Heparin has the natural ability to bind many signaling molecules expressed after stroke that trigger scarring and degeneration of tissues. Therefore, heparin nanoparticles can absorb the aforementioned molecules, leaving behind a reparative tissue environment, in which the hyaluronic hydrogel scaffold facilitates regeneration of neural connections and blood vessels.

## Application area

Brain regeneration after stroke

## Advantages

First of its kind

Effective in animal models

## Institution

[University of California, Los Angeles](#)

## Inventors

[Lina Nih](#)

Assistant Project Scientist

CHEM ENGR

[Stanley Carmichael](#)

Professor and Chair

NEURO

[Tatiana Segura](#)

Professor

CHEM ENGR

## 联系我们



叶先生

电话 : 021-65679356

手机 : 13414935137

邮箱 : yeyingsheng@zf-ym.com