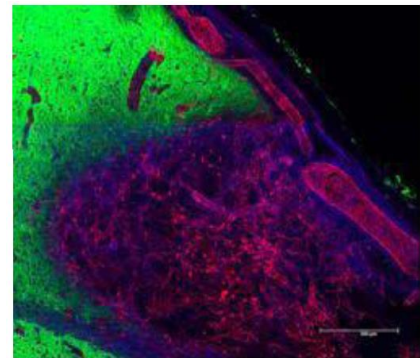


Injectable System for the Treatment of Stroke and CNS Injury

Description:

Over 1.7 million Americans in the US sustain traumatic brain injury (TBI) each year¹ and an estimated 3.2 million Americans have long term disabling effects from TBI². This novel and effective technology features an injectable biomaterial with the ability to promote functional tissue regeneration at the site of a traumatic brain injury and stroke. The technology provides a procedure whereby the hydrogel is injected into a lesion in the brain that will direct the response of neural stem cells in the brain to regenerate normal brain tissue at the lesion site. This technology provides a potential alternative, beneficial approach to the current methods used to treat traumatic brain injuries which focus on managing the primary injury using hypothermia or neuro-protection with pharmacological agents. Research using this material has demonstrated revascularization of the lesion sites and sustained recovery in animal models with CNS injuries (Figure 1).



*Figure 1. Four weeks after hydrogel treatment on a lesion in a rat's brain, a well-structured vasculature network was rebuilt. In this mosaic image, green is neurofilament staining for neurites and red is staining for blood vessels.
image by: Clemson University*

Applications:

- Traumatic Brain Injury Therapy
- Stroke Therapy
- Spinal Cord Injuries

Benefits:

- Injectable, acellular therapy that recruits native cells and promotes functional tissue regeneration
- Alternative approach to current methods used to treat traumatic brain injuries

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Protection Status: Patent application filed
Licensing Status: Available for licensing
Additional Terms: Hydrogel, Extracellular Matrix Molecules, Stroke, Traumatic Brain Injury (TBI), Spinal Cord Injury
CURF Ref No: 08-049

¹ (2010) www.cdc.gov/traumaticbraininjury/

² (2010) www.brainline.org