

Central Nervous System Scarring and Repair

October 19

Tuesday, 12:30pm

Online Webinar

For Researchers



Speaker:

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Host: Jian Zhong, Ph.D.

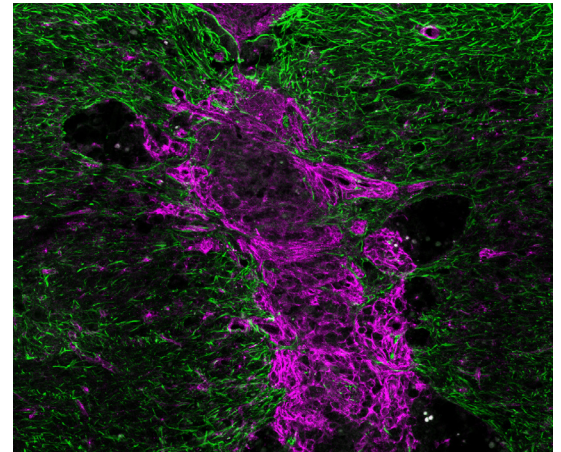
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Abstract

Damage to the mammalian central nervous system often leads to persistent functional deficits. One important cause why these deficits become permanent is the establishment of a scar that blocks regeneration. This seminar will explore the questions of (1.) what the origin and function of scar tissue is and (2.) how the fibrotic scar component influences axonal regeneration and functional recovery after CNS injury. Evidence will be presented that (1.) a specific subpopulation of perivascular cells is the main source of stromal scar tissue following spinal cord injury. (2.) Pericyte-derived fibrotic cells participate in the wound closure and are crucial for the re-establishment of tissue integrity after injury but constitute the long-term persistent fibrotic scar core. (3.) Attenuation of pericyte-derived scarring improves axonal regeneration and functional recovery. (4.) Pericytes are a new therapeutic target for the treatment of CNS lesions.



1. Dias DO, Kalkitsas J, Kelahmetoglu Y, Estrada CP, Tatarishvili J, Holl D, Jansson L, Banitalebi S, Amiry-Moghaddam M, Ernst A, Huttner HB, Kokaia Z, Lindvall O, Brundin L, Frisén J, Göritz C. **Pericyte-derived fibrotic scarring is conserved across diverse central nervous system lesions.** *Nat Commun.* 2021 Sep 17;12(1):5501.
2. Dias DO, Kim H, Holl D, Werne Solnestam B, Lundberg J, Carlén M, Göritz C*, Frisén J. **Reducing Pericyte-Derived Scarring Promotes Recovery after Spinal Cord Injury.** *Cell.* 2018 Mar 22;173(1):153-165.e22. *Lead contact author
3. Göritz C, Dias DO, Tomilin N, Barbacid M, Shupliakov O, Frisén J. **A pericyte origin of spinal cord scar tissue.** *Science.* 2011 Jul 8;333(6039):238-42.