

Modulation of myelin phagocytosis by means of anti-inflammatory treatment as a therapy of spinal injury

Citation for published version (APA):

Wu, S. (2021). *Modulation of myelin phagocytosis by means of anti-inflammatory treatment as a therapy of spinal injury*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20210909sw>

Document status and date:

Published: 01/01/2021

DOI:

[10.26481/dis.20210909sw](https://doi.org/10.26481/dis.20210909sw)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Propositions belonging to the dissertation

Modulation of myelin phagocytosis by means of anti-inflammatory treatment as a therapy of spinal cord injury

Siyu Wu

1. The ability of macrophages to phagocytose myelin debris is enhanced via activating nuclear receptor RAR with retinoic acid. *(this thesis)*
2. Activation of the inflammatory pathway reduces myelin phagocytosis by macrophages, while bile acids especially *taurolithocholic acid* (TLCA) could partially rescue this activity. *(this thesis)*
3. Compared with methylprednisolone, human bone marrow derived stromal cells that are prepared by negative selection without expansion in culture have a better recovery of spinal cord injury-induced motor deficit. *(this thesis)*
4. *Tauroursodeoxycholic acid* as a treatment of spinal cord injury reduces the inflammatory response in the lesion site and improves functional recovery in the subacute phase but without lasting benefits.
5. The positive outcomes of clinical trial about the safety of a new bmSC preparation in SCI patient has important implications for neurologic clinical practice, and may lead to commercial exploitation of this stem cell. *(this thesis)*
6. The pH-rodo dyes assay of myelin phagocytosis gives a more efficient and dynamic assessment of the endocytosis process.
7. Exosomes derived from bone mesenchymal stem cell are promising tools to improve angiogenesis, attenuate neuronal cells apoptosis, reduce glial scar formation and lesion size, inflammation, and promote axonal regeneration after spinal cord injury.
8. Mesenchymal stem cell as one of the most important and promising tested strategies to cure neurodegenerative pathologies is particularly appealing and showed hopeful promise in preclinical research.
9. To be fond of learning is to be near to knowledge; to be arduous in work is to be near to benevolence; and to know shame is to be near to gallantry. Knowing these three points, you will know how to cultivate yourself. (The Doctrine of the Mean) 好学近乎知，力行近乎仁，知耻近乎勇，知斯三者，则知所以修身-《礼记·中庸》