

Additional file:

Open peer review report 1 on “Inhibition and enhancement of neural regeneration by chondroitin sulfate proteoglycans”.

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Comments to the author:

Chondroitin sulfate (CS) proteoglycans (CSPGs) are proteoglycans consisting of a protein core and a chondroitin sulfate side chain. They play important roles in neural development and glial scar formation. In this review the authors review that heparin-binding growth-associated molecule (HB-GAM), a CS-binding protein expressed at high levels in the developing CNS, reverses the role of the CSPGs in neurite growth of CNS neurons in vitro from inhibition to activation. The in vivo studies of CNS injuries support the in vitro studies and show that HB-GAM increases dendrite regeneration in the adult cerebral cortex and axonal regeneration in the adult spinal cord. These findings may enable the development of novel therapies for CNS injuries. I think this is an interesting topic and it is a good science fiction for young students and researchers in the related fields. I have only two minor suggestions for the authors:

1. The abstract of this manuscript like a reduced version of another research paper [Scientific Reports 6:33916 DOI: 10.1038/srep33916]. Although, these may be from the authors' own previous work, I would like to ask if you could please rephrase this part;
2. Please explain the concepts of chondroitin sulfate (CS), CS proteoglycans (CSPGs), CS glycan chains and CS chains in the "Introduction" part. It is difficult for the layman readers to understand the relationship among them.