

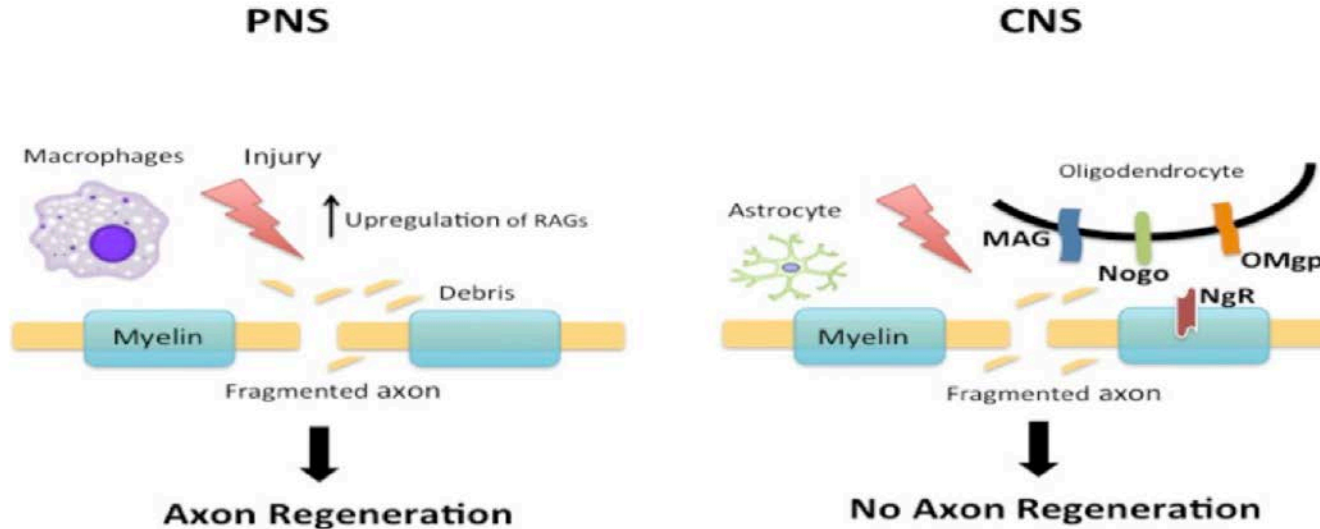
Johns Hopkins Engineering

Methods in Neurobiology

Nerve regeneration obstacles and differences
between PNS and CNS

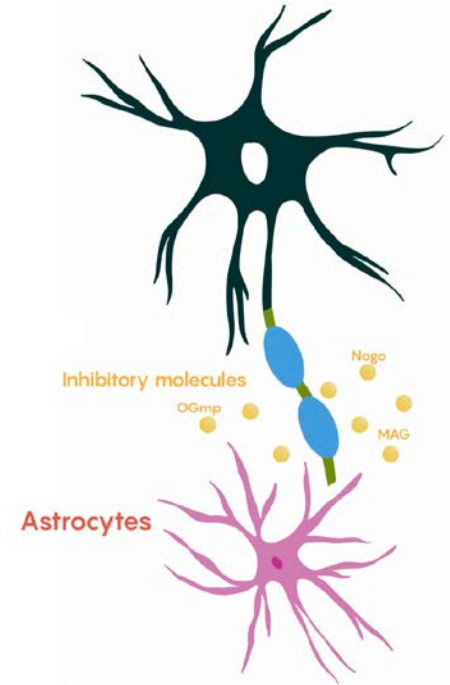


Obstacles to nerve regeneration in the CNS



Obstacles to nerve regeneration in the CNS

- Not permissive environment;
- Myelin-associated inhibitors, MAI (Nogo-A, MAG, OMgp);
- Astroglial scar (chondroitin sulphate proteoglycans, CSPGs);
- Axon Regenerative Inhibitor pathways (Rho-A);
- Modest upregulation of RAGs



References

Slide	Reference
2	Modified from Ju, C. Axonal Injury in PNS and CNS. 2019 2.1: Acute Physical Damage to the Nervous System. Libretexts Medicine. https://med.libretexts.org/Bookshelves/Pharmacology_and_Neuroscience/Book%3A_Neuroscience_(Ju)/02%3A_Neurodegeneration/2.01%3A_Acute_Physical_Damage_to_the_Nervous_System
3	Hilton, B.J., Bradke, F. 2017 Can injured adult CNS axons regenerate by recapitulating development? Development 144: 3417-3429.

