

**Title:** PLG bridge implantation in chronic SCI promotes axonal elongation and myelination

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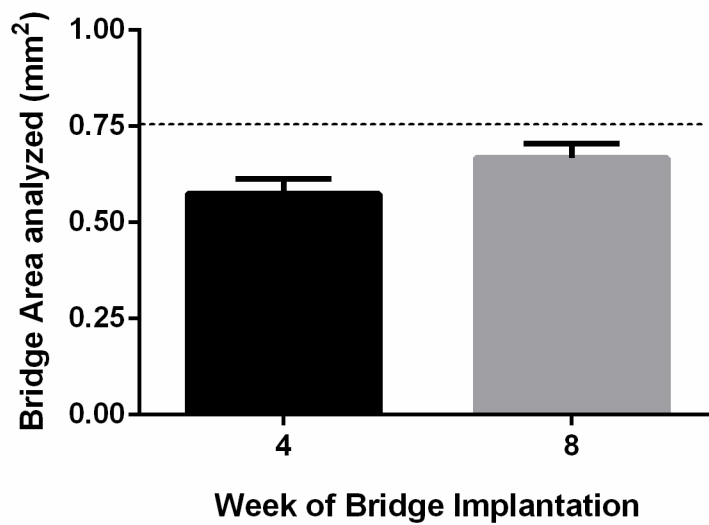
**Figures: 4 Pages**

Figure S1. Bridge area 6 months post injury

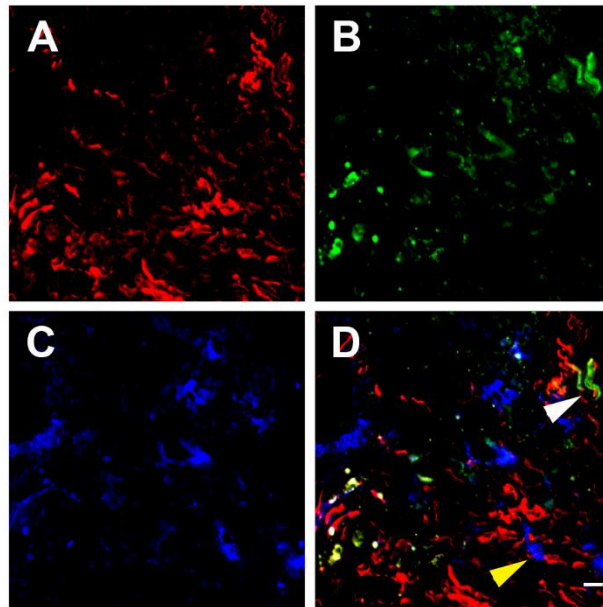
Figure S2. CGRP and ChAT axons regenerate into the bridge at 6 months post injury

Figure S3. Z-stack images showing overlap of IHC markers

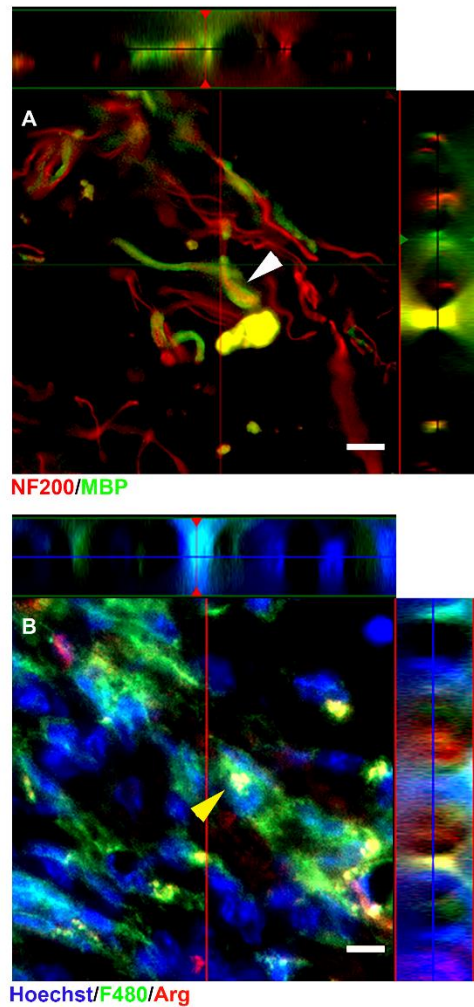
Figure S4. Cylinder Test



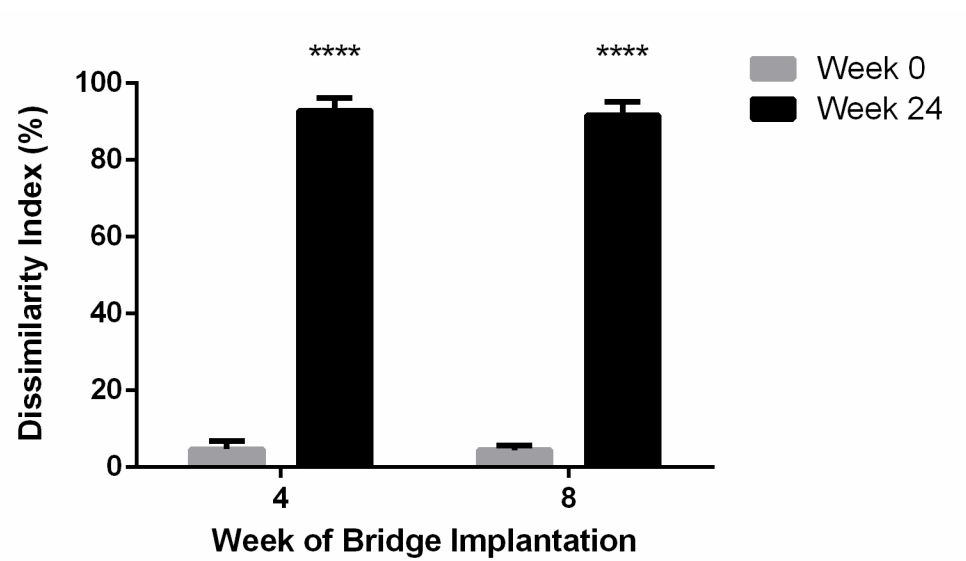
**Figure S1: Bridge area 6 months post injury.** Dashed line indicates cross sectional bridge area at time of implantation. While there was significant degradation from initial implantation, there was not a significant difference between 4 and 8 week bridge implantation timepoints. Note that the bridges implanted at 4 weeks post injury exhibit a lower area, most likely due to being inside the animals longer than the bridges implanted at 8 week post injury.



**Figure S2: CGRP and ChAT axons regenerate into the bridge at 6 months post injury. (A)** NF200<sup>+</sup> axons colocalized with ChAT **(B)** and CGRP **(C)** **(D)** White arrows denote NF200<sup>+</sup>/ChAT<sup>+</sup> axons. Yellow arrows denote NF200<sup>+</sup>/CGRP<sup>+</sup> axons. Scale: 20  $\mu$ m.



**Figure S3: Z-stack images showing 3-dimensional overlap of (A) Hoechst<sup>+</sup>/F480<sup>+</sup>/Arg<sup>+</sup> and (B) NF200<sup>+</sup>/MBP<sup>+</sup>. White arrows denote areas of overlap. Yellow arrows denote Hoechst<sup>+</sup>/F480<sup>+</sup>/Arg<sup>+</sup> cells. Scale: 100  $\mu$ m.**



**Figure S4: Cylinder Test.** Asymmetry in the mice was evaluated over 6 months. Animals predominantly used the non-impaired forelimb for weight supported full rearing which is indicated by high dissimilarity index at 6 month post injury. \*\*\*\* denotes  $p < 0.0001$ .