

**Title: Electrical stimulation shifts healing/scarring towards regeneration in a rat limb amputation model**

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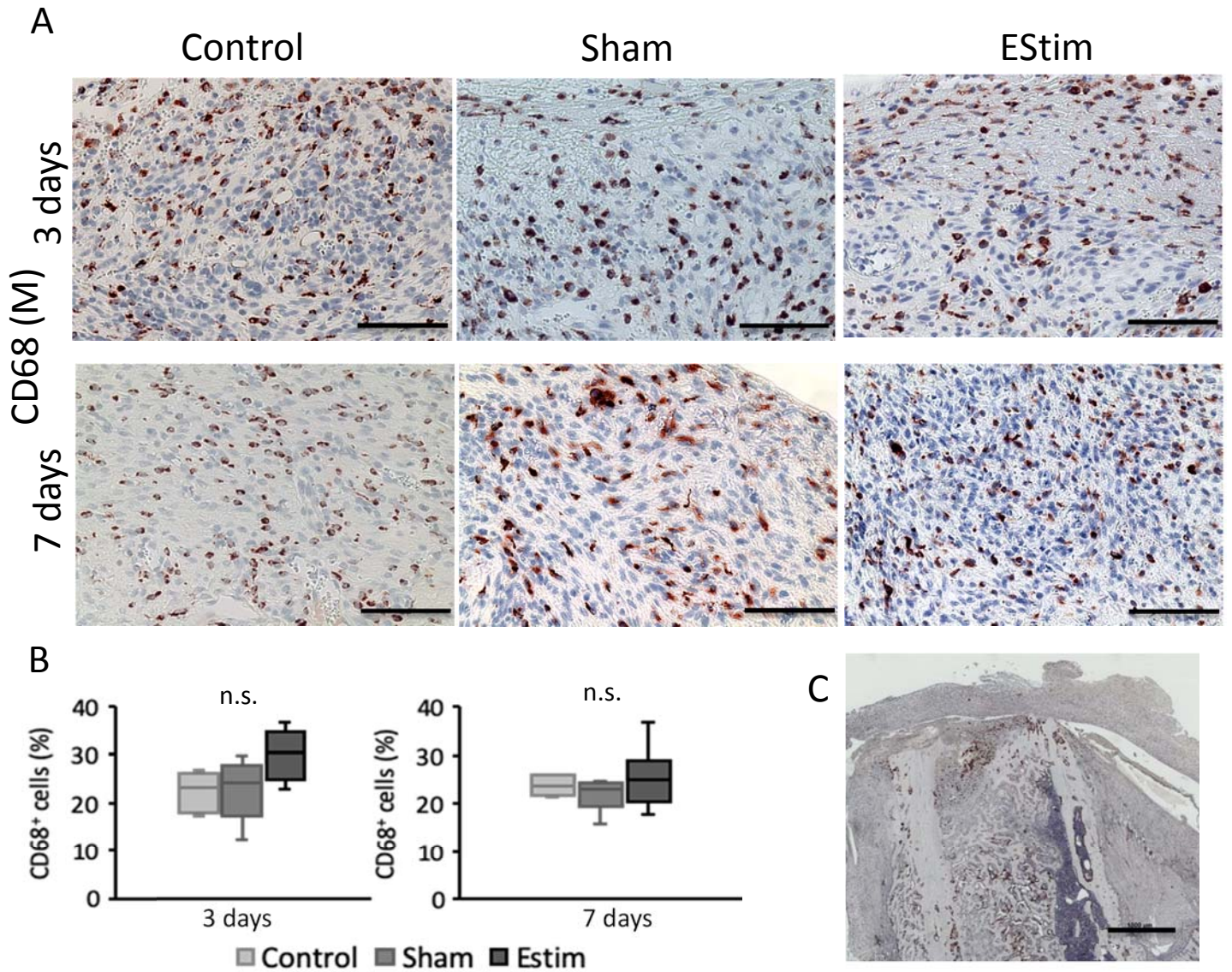
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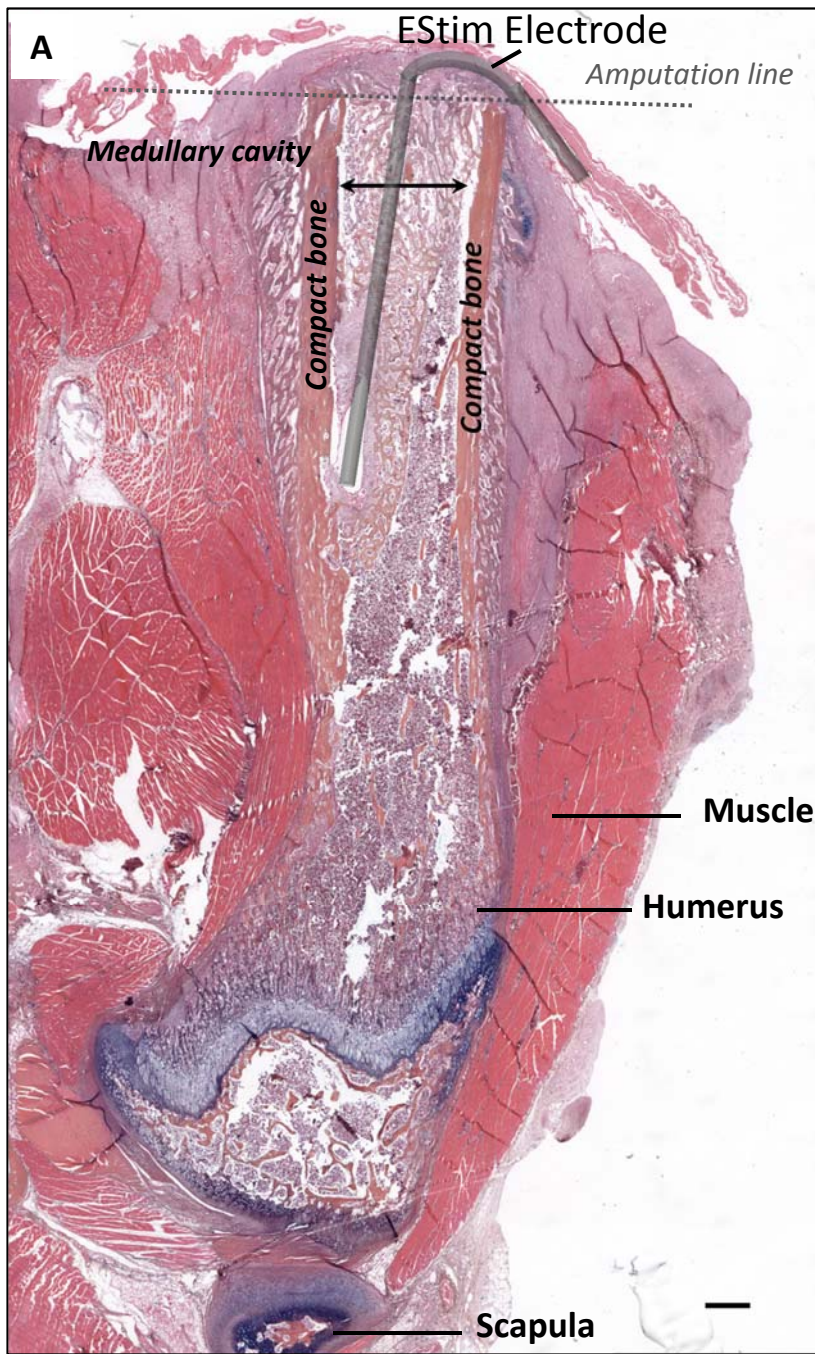
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**Supplementary Figure S1. Immunohistochemistry analysis of CD68 (pan-macrophage marker) in limb stumps at 3- and 7-days post amputation.** **A:** Representative images of anti-CD68 staining in control, sham and EStim treated tissues at day 3 (top row) and day 7 (bottom row), (Scale bar = 100 $\mu$ m). **B:** Graph indicating ratio of CD68+ cells in the distal end of the stumps in all 3 groups 3 and 7 days post amputation. n.s. - non significant ( $p \geq 0.05$ ). **C:** Representative image displaying CD68+ cells in the distal end of EStim treated stump, 7 days post amputation (Scale bar=1000 $\mu$ m).



**Supplementary Figure S2. Representative longitudinal section of the EStim stump 7 days post amputation. A:** Longitudinal section showing stump anatomy, from side to side, of humerus with the presence of compact bone, medullary cavity, scapula, and muscle tissue. Position of EStim device electrode and amputation line (dotted line) indicated in the image (AB&OG staining, 4x magnification, Scale bar = 500 $\mu$ m). **B:** Representative high magnification image displaying the distal end of the EStim stump at day 7 post-amputation (blue line), position of the ROI for the ECM analysis (yellow square) relative to the distal end of the stump and the end of the humerus (light green lines) (Sirius red staining; 10x magnification; Scale bar = 100 $\mu$ m).

