

Article

An in vivo platform for rebuilding functional neocortical tissue

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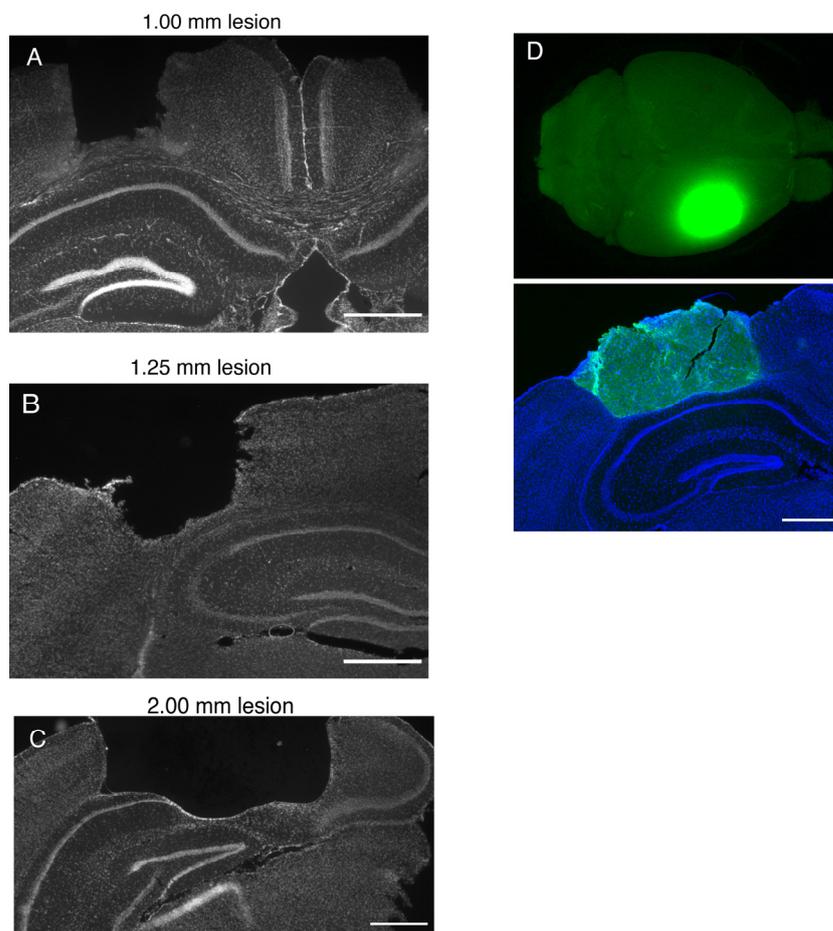


Figure S1. Cortical lesions can differ in size without obvious impacts on engraftment. A. 1 mm cortical lesion (Scale bar=1 mm). B. 1.25 mm cortical lesion (Scale bar=1 mm). C. 2 mm cortical lesion (Scale bar=1 mm). D. Representative image of a 2 mm graft. Top panel, GFP-labeled graft in whole mouse brain. Bottom panel, immunofluorescence image of coronal section of graft (Scale bar, 1 mm).

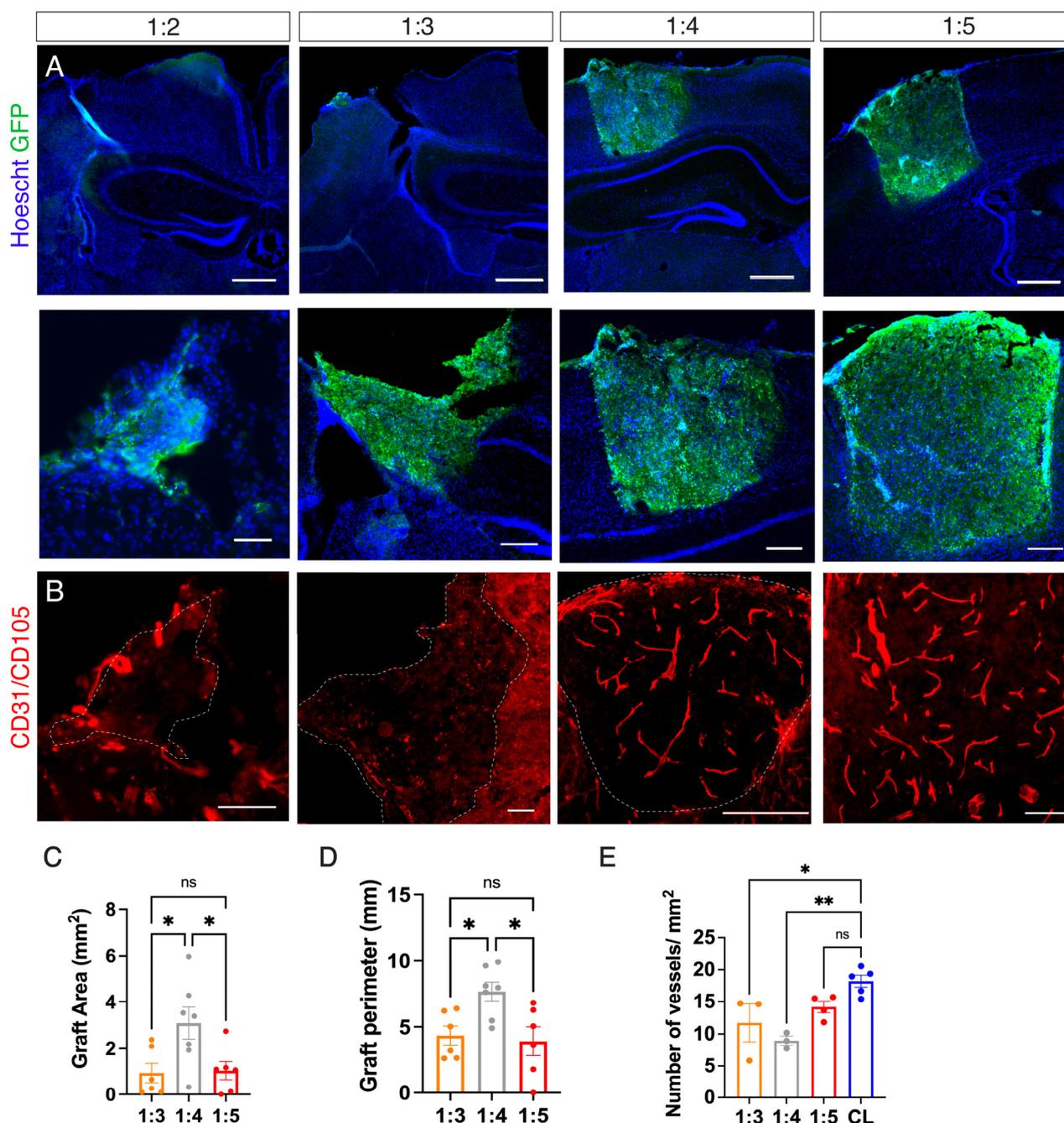


Figure S2. The quality of grafts depends on scaffold concentration. A. Representative immunofluorescence images of grafts with volume ratios of Matrigel:media from left to right of 1:2, 1:3, 1:4, 1:5. Top row, low magnification (Scale bars from left to right = 800 μ m, 500 μ m, 1 mm, 1 mm). Bottom row, higher magnification (Scale bars from left to right = 100 μ m, 150 μ m, 300 μ m, 300 μ m). B. Representative immunofluorescence images of graft vasculature for each Matrigel:media ratio (Scale bars from left to right = 100 μ m, 150 μ m, 500 μ m, 200 μ m). C. Quantification of graft area. Grafts with 1:4 dilution (N = 7, mean = 3.01 mm²), were significantly larger than 1:3, (N = 6, mean = 0.93 mm², p = 0.03) and 1:5, (N = 6, mean = 1.03 mm², p = 0.04). D. Quantification of graft perimeter. Grafts with the 1:4 dilution (N = 7, mean = 7.66 mm), shared a significantly longer border with the host tissue than the 1:3 (N = 6, mean = 4.36 mm, p = 0.03) and 1:5mm² (N = 6, mean=3.92 mm, p = 0.002). E. Quantification of vessel density in grafts. Contralateral cortex had significantly higher vessel density than grafts with the 1:3 dilution (N=3, mean=11.72 mm², p=0.02) and 1:4 dilution (N = 3, mean = 8.97 mm², p = 0.002). Grafts with the 1:5 dilution (N = 4, mean = 14.18 mm², p = 0.13) were not statistically different than contralateral cortex.