Supporting Information

Particle hydrogels decrease cerebral atrophy and attenuate astrocyte and microglia/macrophage reactivity after stroke

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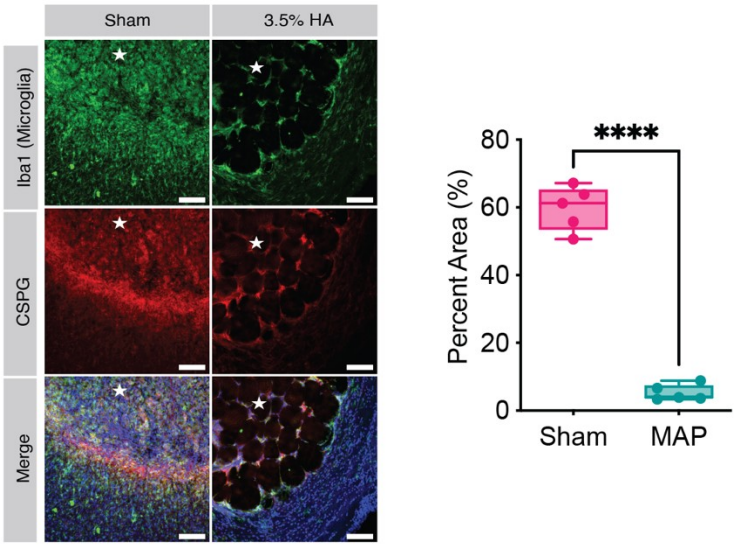
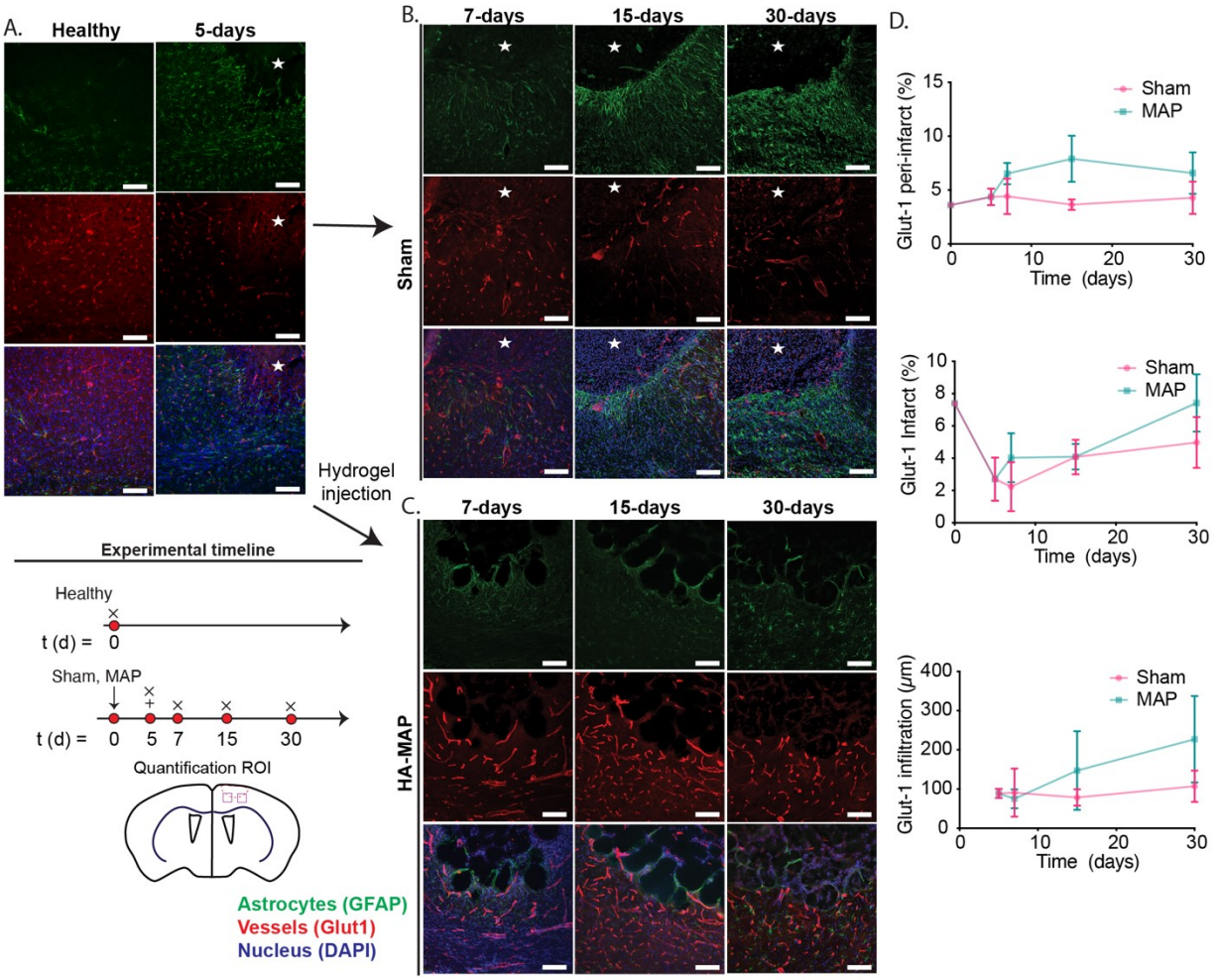
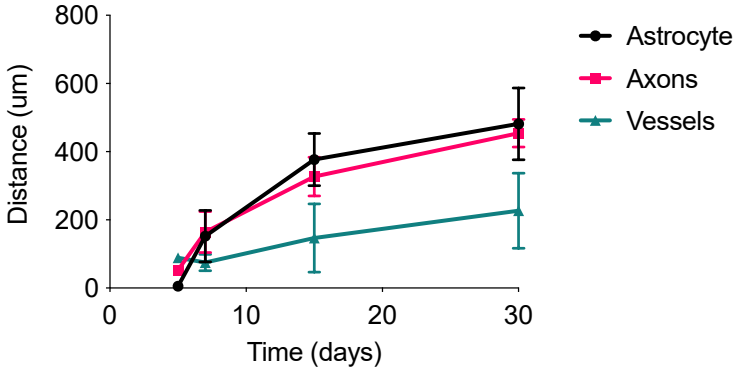
Supplementary Figures



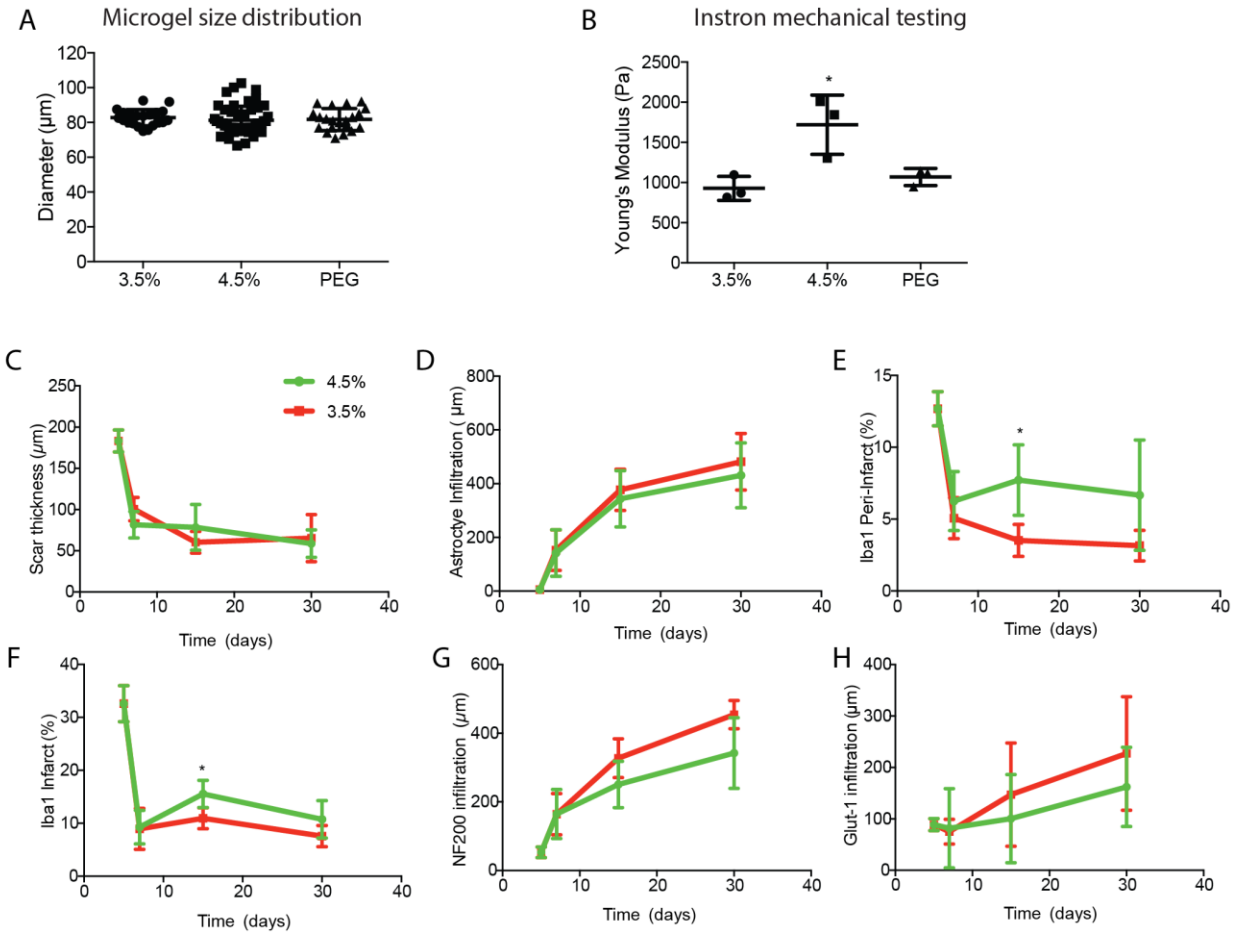
Supplemental Figure 1. IHC images showing microglia and CSPG deposition at 1 week post stroke. Quantification of positive area of CSPG in infarct region (star) comparing sham to MAP gel. All scale bars = 100µm. Statistical analysis was done in GraphPad Prism. Data were analyzed using a T-test and $P<0.05$.



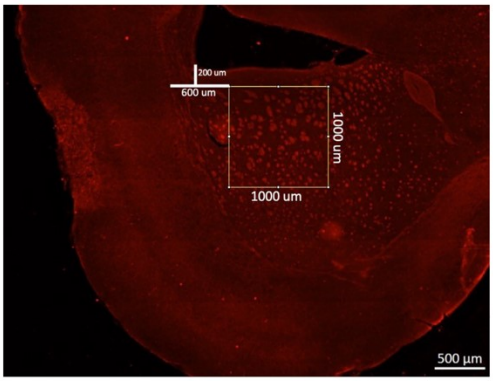
Supplemental Figure 2. A. IHC images showing reactive astrocytes (GFAP) and vessels (GLUT1) of healthy tissue and 5 days post stroke. B. IHC images of Sham stroke tissue showing reactive astrocytes (GFAP) and vessels (GLUT1) at 1-, 2-, 4-weeks post stroke. C. IHC images of MAP gel treated stroke tissue showing reactive astrocytes (GFAP) and vessels (GLUT1) at 1-, 2-, 4-weeks post stroke, D. Quantification of percent area of vessels (GLUT1) in the peri-infarct, infarct, and infiltration distance into infarct. All scale bars = 100μm. Statistical analysis was done in GraphPad Prism. Data were analyzed using a T- test and $P<0.05$.



Supplemental Figure 3. Overlay of infiltration of astrocytes (GFAP), axons (NF200), and vessels (Glut1) intro the infarct over time. Data is presented as mean and standard deviation with an average of 5 animals (n= 5).



Supplemental Figure 4. A. Quantification of Young's modulus for 3.5% HA MAP, 4.5% HA MAP, and PEG MAP. B. Microgel size distribution for 3.5% HA MAP, 4.5% HA MAP, and PEG MAP. C. Quantification of scar thickness (GFAP) over time comparing 4.5% MAP and 3.5% MAP. D. Quantification of astrocyte infiltration (GFAP) into the infarct over time comparing 4.5% MAP and 3.5% MAP. E. Quantification of reactive microglia (Iba-1) percent area in the peri-infarct over time comparing 4.5% MAP and 3.5% MAP. F. Quantification of reactive microglia (Iba-1) percent area in the infarct over time comparing 4.5% MAP and 3.5% MAP. G. Quantification of axon (NF200) infiltration into the infarct over time comparing 4.5% MAP and 3.5% MAP. H. Quantification of vessel (GLUT1) infiltration into the infarct over time comparing 4.5% MAP and 3.5% MAP. Statistical analysis was done in GraphPad Prism. Data were analyzed using a two-way ANOVA analysis of variance followed by a Sidak *post-hoc* test and a 95% confidence interval. * indicate $P<0.05$.



Supplemental Figure 5. Quantification of the number of nigrostriatal bundles stained with NF200 on the hemisphere ipsilateral to the stroke lesion. Measured bundles were confined to a 1000 µm x 1000 µm square that was 200 µm from the top corner of the ventricle and 600 µm away from the lower cortex surface. Measurements done on FIJI. Statistical analysis done on GraphPad Prism. Data was analyzed using a two-way ANOVA followed by a Tukey's multiple-comparisons test, * indicates $P<0.05$.