

**Figure S1.** An image of a dye filled patched astrocyte (Alexa 488 channel, 20-30  $\mu\text{m}$  deep in the slice, single optical section.

**Figure S2.** Comparison of electrophysiological properties of neurons and astrocytes in rat spinal cord slice. The amplitudes of the membrane potentials are plotted against 20 pA injected current step for 400 ms. Traces show electrical response of a (A) neuron and (B) astrocyte. neurons upon current injection fired action potential, whereas astrocytes were depolarised.

**Figure-S3.** Morphology of astrocytes in spinal cord with age progression: (A) S100 $\beta$  labelled astrocytes in ventral horn of juvenile, young adult and old groups (B) Representative images showing GFAP staining in dorsal horn (upper panels) and ventral horn (lower panels) of spinal cord in juvenile, young adult and old groups.