

SUPPLEMENTARY FIGURES

Supplementary Figure 1: EGFP-labeled structures correspond to single astrocytes. A: EGFP expression in the cortex of the dnSNARE mouse. B: An isolated EGFP-expressing cell with a volume within the first Gaussian curve of the volume distribution shown in Figure 1 is identified in green. C: Double-labeling with anti-GFAP shows that the EGFP-expressing cells express GFAP, consistent with an astrocytic identity.

Supplementary Figure 2: AAV transduced, EGFP-expressing astrocytes have a similar volume to dnSNARE astrocytes. Top view reconstruction of EGFP-expressing cortical cells obtained from confocal images from AAV injected coronal brain sections. B: Histogram representing the volume distribution of EGFP labeling of single astrocytes (confirmed by GFAP labeling). Raw data were fit with a Gaussian curve showing one distinct peak at $24,465 \mu\text{m}^3$. Data were obtained from 2 injected brains. C: Single astrocytes are shown in green. D-F: Optical section through one EGFP expressing cell (green) showing its identity as an astrocyte by GFAP labeling (red).

Supplementary Figure 3: Nearest-neighbor analysis of neuronal somata location. A: Neuronal somata (red) in contact with an astrocyte (green). B and C show the nearest neighbor distributions for neurons. B: Neurons that had as their nearest neighbor a neuron which contacted the same astrocyte. C: shows the distribution when the nearest neuronal neighbor was located outside that astrocyte.