Supplementary Figure 6. Differences in synaptic AMPA receptor function and subunit composition in visual and somatosensory cortices of normal-reared rats. 

(a) Left: In 5 weeks old NR rats, average mEPSC amplitude in somatosensory cortex (Sctx) was greater than in visual cortex (Vctx) (Vctx: 9.5 ± 0.5 pA, n = 20; Sctx: 15.6 ± 1.1 pA, n = 27; t-test: P<0.0001). Middle: Average mEPSC traces (Vctx: red, Sctx: black, Scaled: average mEPSC trace from visual cortex was scaled (red) and superimposed on average mEPSC trace from somatosensory cortex (black)). There was no difference in mEPSC kinetics. Right: Average mEPSC frequency was higher in cells from somatosensory cortex (Vctx: 1.5 ± 0.1 Hz, n = 20; Sctx: 2.6 ± 0.3 Hz, n = 27; t-test: P < 0.001).

(b) Somatosensory cortex has more GluR1 (Vctx: 100 ± 13% of average Vctx, n = 7; Sctx: 145 ± 15% of average Vctx, n = 6; t-test: P < 0.05), while less GluR2 (Vctx: 100 ± 11% of average Vctx; Sctx: 72 ± 7% of average Vctx; t-test: P < 0.05) in the PSD than visual cortex. This resulted in a larger GluR1/GluR2 ratio at synapses of somatosensory cortex (Vctx: 100 ± 11% of average Vctx; Sctx: 210 ± 34% of average Vctx; t-test: P < 0.03).