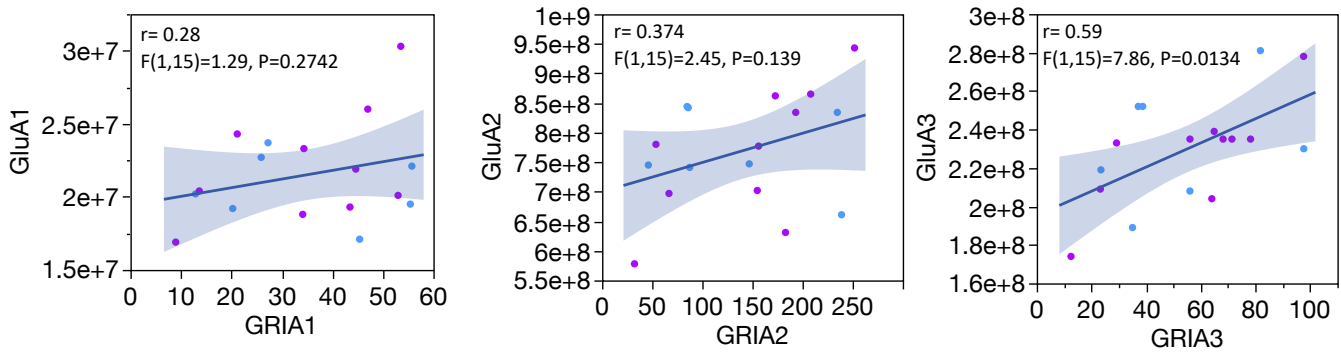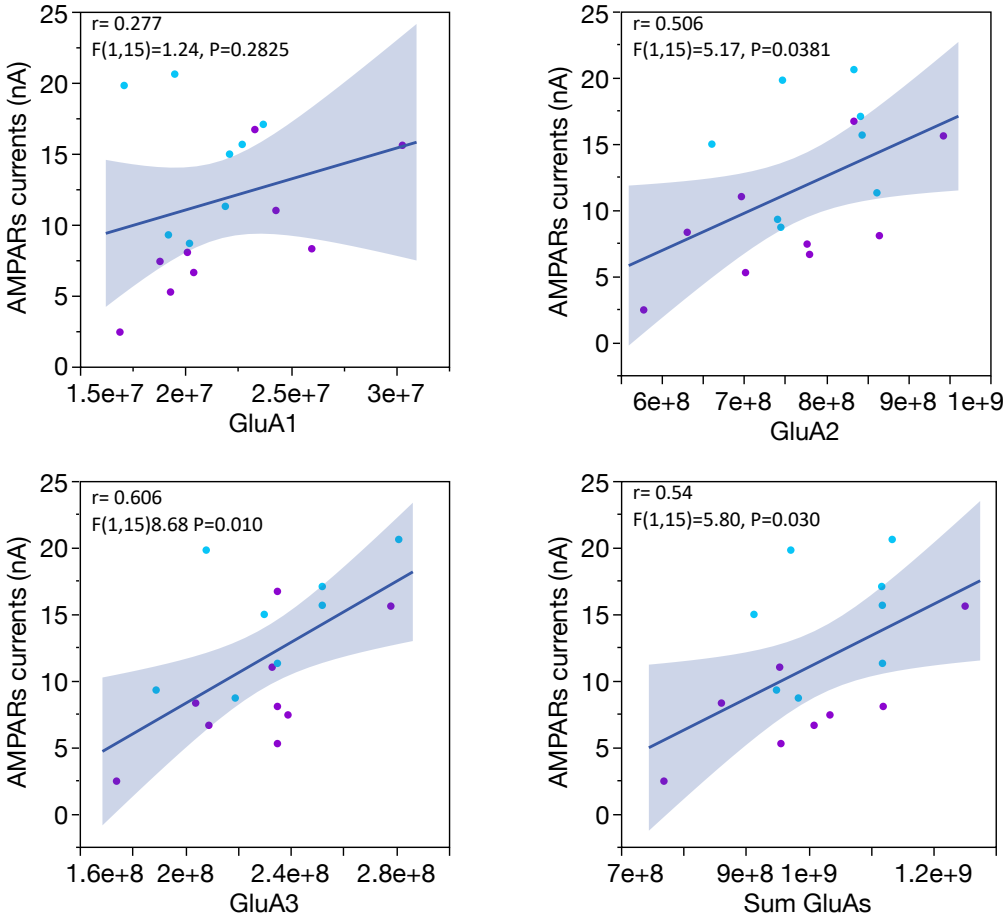**Supplementary figure 1.** Correlation between surrogate variables SV1-4 and age, RNA integrity number in the dorsolateral prefrontal cortex (RIN.DLPFC), pH, postmortem interval (PMI) and agonal factor score (AFS)(Tomita et al., 2004). The color indicates the correlation coefficient is per the scale. The probability of the correlation is shown inside each panel.

Bulk mRNA *vs* synaptic protein for AMPARs subunits

Supplementary figure 2. Correlation between mRNA from the DLPFC and the amount of protein in synaptosome enriched preparations measured by label-free proteomics. The solid line is the linear fit, the blue shade represents the confidence of the fit at $\alpha = 0.05$. The correlation and probability of the correlation are shown inside each plot. Each point represents a subject. Controls are shown in blue and SZ in magenta.

AMPA receptor currents *vs* synaptic protein for AMPARs subunits

Supplementary figure 3. Correlation between kainate-induced AMPARs responses in MSM experiments and the amount of protein for the AMPARs subunits detected in synaptosome enriched preparations by label-free proteomics. The solid line is the linear fit, the blue shade represents the confidence of the fit at α= 0.05. The correlation and probability of the correlation are shown inside each plot. Each point represents a subject. Controls are shown in blue and SZ in magenta.