

Description of Additional Supplementary Files

Supplementary Data 1. Detailed statistical Information including sample sizes, statistical tests used, ANOVA values, and exact P-values from multiple comparisons tests.

Supplementary Data 2. Differential abundance results from CoIP-MS, synapse proteomics and synapse phosphoproteomics.

Supplementary Data 3. Gene set enrichment analysis (GSEA) of CoIP-MS, synapse proteomics and synapse phosphoproteomics experiments.

Supplementary Data 4. Genes with nominal P-value <0.05 in differential expression analysis of bulk RNA sequencing.

Supplementary Data 5. FDR significant pathways from gene set enrichment analysis (GSEA) of bulk RNA sequencing data.

Supplementary Data 6. Genes with nominal P-value <0.05 in differential expression analysis of single nucleus RNA sequencing.

Supplementary Data 7. FDR significant pathways from gene set enrichment analysis (GSEA) of single nucleus RNA sequencing data.