SUPPLEMENTAL DATA

Fig. S1. CDKL5 is efficiently exported to the somatic cytoplasm upon glutamate stimulation. Hippocampal neurons at DIV 10 were treated with glutamate 10 μM for 10 min (lower panels, Glut) or left untreated (upper panels, KRH) and stained with anti -CDKL5 (green), -VGLUT1 (red) and DAPI (blue). Overlays are shown on the right. The *Scale bar* is 10 μm.

Fig. S2. EGTA and AP5 treatments by themselves do not alter endogenous CDKL5 expression level. Hippocampal neurons at DIV 10 were treated for 3 hrs with glutamate 10 μM (Glut), EGTA 2mM (EGTA) or AP5 100 μM (AP5) or left untreated. β-tubulin III (TUJ1) was used as internal standard.

Fig. S3. Glutamate-induced CDKL5 degradation is not due to proteolytic cleavage. Analysis of CDKL5 levels by Western blotting in untreated hippocampal neurons (CTRL) or treated for 3 hrs with glutamate 10 μM (Glut). β-tubulin III (TUJ1) was used as internal standard.

Fig. S1

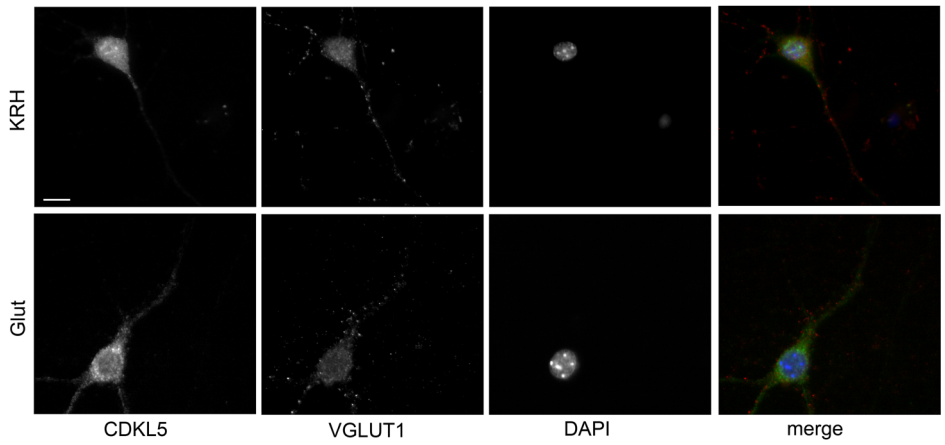

Fig. S2

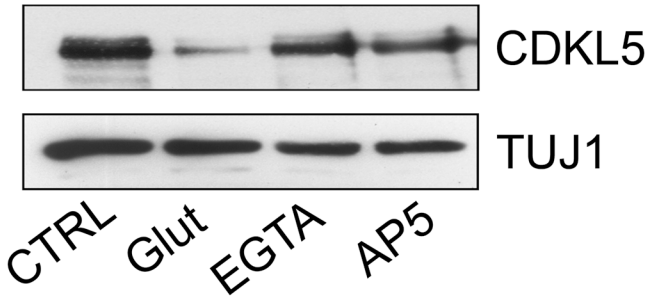

Fig. S3