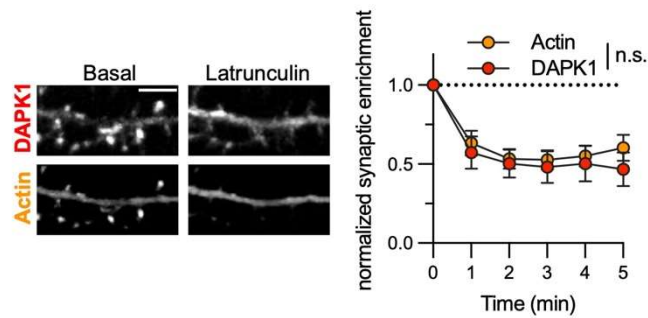


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Supplemental information

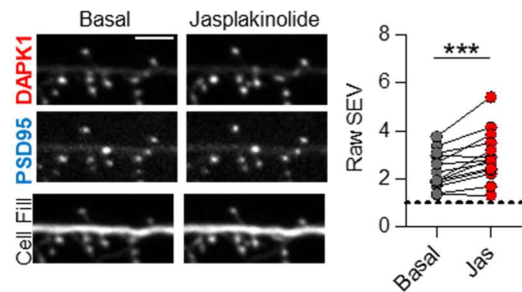
**Distinct synaptic pools of DAPK1
differentially regulate activity-dependent
synaptic CaMKII accumulation**

Jonathan E. Tullis and K. Ulrich Bayer



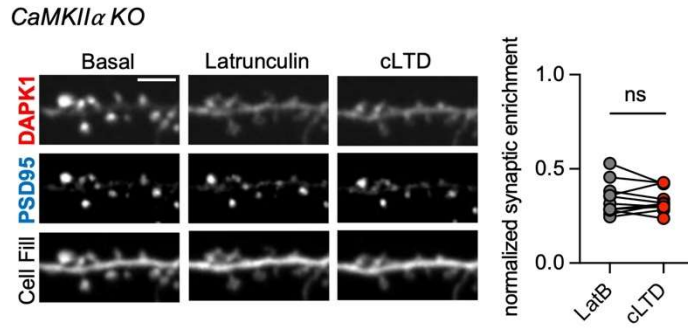
Supplemental Figure S1. Acute application of latrunculin reduces actin and DAPK1 synaptic localization equally, related to Figure 1.

Representative images of mCh-DAPK1 and YFP-actin (left); Scale bars, 5 μm . Quantifications (right) show mean \pm SEM. Synaptic enrichment values were measured over time following treatment with Latrunculin B (2.5 μM) for 5 minutes ($n = 3$ neurons; two-way RM ANOVA with Tukey's multiple comparison's test; time: $p < 0.001$; group: not significant, n.s.).



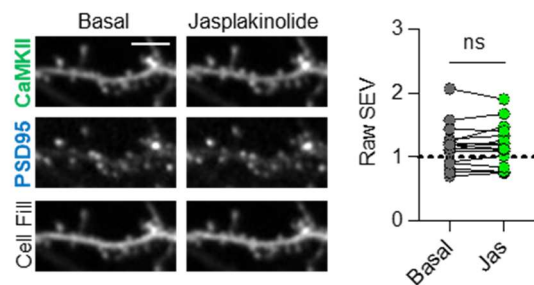
Supplemental Figure S2. Acute application of jasplakinolide enhances DAPK1 synaptic localization, related to Figure 1.

Quantifications show mean \pm SEM. Scale bars, 5 μm . Stabilization of F-actin with jasplakinolide (1 μM , 10 min) increased DAPK1 synaptic enrichment ($n = 14$ neurons; *** $p < 0.001$ in paired two-tailed t-test).



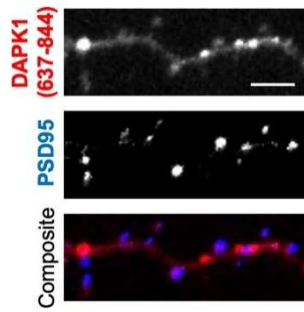
Supplemental Figure S3. CaMKII KO does not enable LTD-induced re-accumulation of DAPK1 after synaptic removal, related to Figure 2.

Scale bars, 5 μ m. DAPK1 does not re-accumulate to synapses by cLTD after synaptic removal by latrunculin in CaMKII KO cultures (n = 11 neurons; not significant, ns, in paired two-tailed t-test).



Supplemental Figure S4. Acute application of latrunculin does not affect basal CaMKII synaptic localization, related to Figure 4.

Scale bars, 5 μ m. Stabilization of F-actin with jasplakinolide (1 μ M, 10 min) did not affect CaMKII synaptic enrichment (n = 16 neurons; not significant, ns, in paired two-tailed t-test).



Supplemental Figure S5. Extrasynaptic clustering of DAPK1 aa. 637-844, related to Figure 5.

Scale bar, 5 μm . Representative images of DAPK1 (red, aa. 637-844) and PSD-95 intrabody (blue). The DAPK1 cytoskeletal binding domain alone formed extrasynaptic clusters which were distinctly separated from PSD-95 puncta.