

Supplementary material:

Supplementary table 1. Gene expression analysis of Chem-LTD and Chem-LTP-stimulated hippocampal slices. The table shows the fold changes for significant differently expressed genes after 1h of NMDA or forskolin (rolipram/magnesium free) stimulation compared to non-stimulated slices. The columns shows the fold changes for significant differently expressed genes retrieved in microarray analysis and for genes tested in qRT-PCR assays. Mean fold changes were calculated by different software packages. n.s., non-significant (not compliant with the filters imposed to the data, -see Materials and Methods) *, $p < 0.05$ in Welch's t-test. Negative genes in microarray analysis tested by qRT-PCR assays: Egr1, Fos (NMDA stimulation) , Crem (Chem-LTP stimulation). The columns shows the software used in the analyses (see Materials and Methods) and the resulting fold change. n.d., not determined in the corresponding analysis

Supplementary table 2. Antibodies used in western blotting (WB) assays. Column A shows the antibody target, column B: antibody working dilution, column C: Catalogue number and D: company

Supplementary table 3. List of primers used in the qRT-PCR assays. Left primer, sense; right primer, antisense.

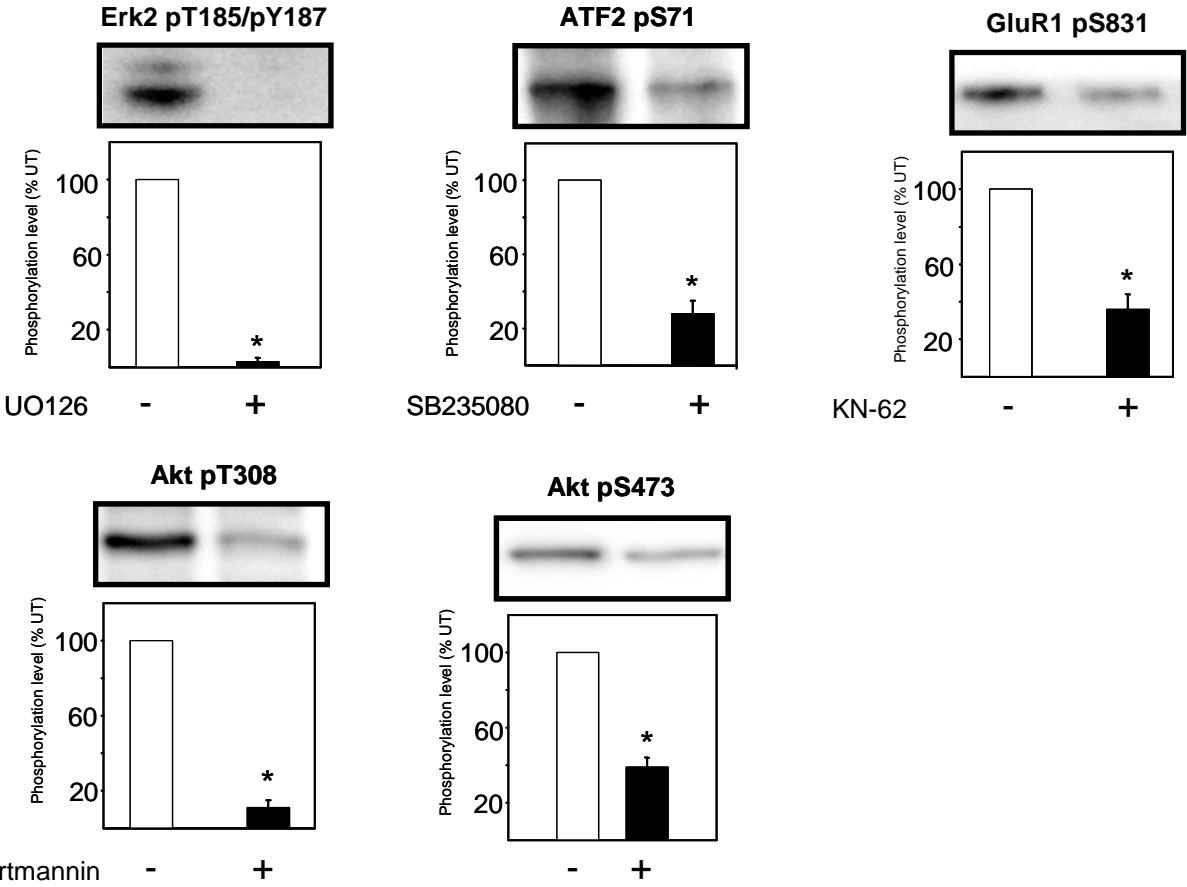
Supplementary figure 1

Kinase inhibitors were tested against a range of different substrates (see materials)
A. UO126 prevented the phosphorylation of Erk2pT185/pY187. SB235080, decreased the phosphorylation of ATF2 S71, KN-62 reduced the phosphorylation of GluR1 S831. PI3K inhibitor, Wortmannin decreased the phosphorylation of Akt T308 and S473. *, significant changes ($P < 0.001$, Student's t test)

Supplementary figure 2.

Promoter architecture of genes induced by LTD and LTP protocols. 5'-flanking region (1 kb upstream and 200 bp downstream of the transcription start site) of *arc*, *egr2*, *egr4* and *npas4* were obtained from Ensembl build 37 and analyzed using the public version of Match 1.0 (www.gene-regulation.com).

Supplementary Fig.1



B

Wortmannin

Supplementary Fig. 2

