**Supplementary Figure S1. Measurement of locomotor activity during exploration of home or novel cages**

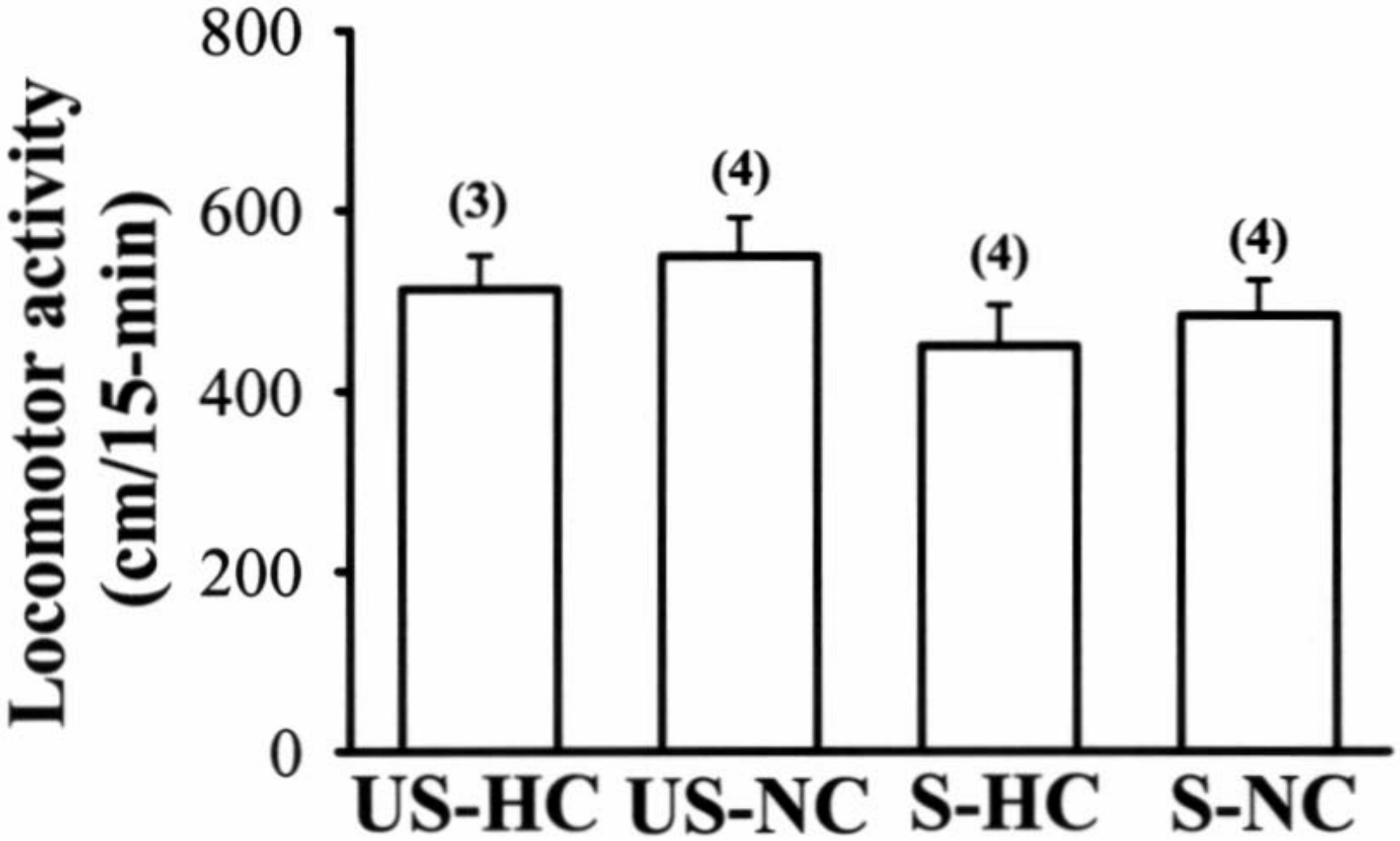
There were no significant differences in the overall locomotor activity (over the 15 min period of exploration) among unstressed and stressed rats in the HC or NC ($P > 0.05$). Data are presented as means ± SEM. Numbers of animals used are indicated in *parentheses*.

**Supplementary Figure S2. Regulation of MEK1/2 and STEP phosphorylation in the hippocampal CA1 region by stress**

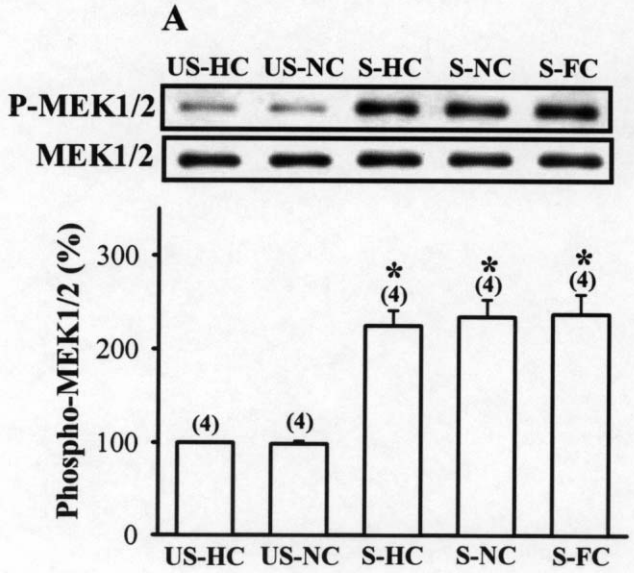
*A*, representative immunoblots and corresponding densitometric analysis show MEK1/2 phosphorylation in slices from unstressed-home cage (US-HC), unstressed-novel cage (US-NC), stressed-home cage (S-HC), stressed-novel cage (S-NC) and stressed-familiar cage (S-FC) rats. The number of experiments per group is indicated by n. *Asterisks* indicate significant difference. *B*, representative immunoblots show that levels of phosphorylated STEP (upper band) were significantly upregulated in slices from stressed (S-HC) rats. Preincubation of immunoprecipitates with λ-phosphatase (λ-PP, 1 U) but not heat-inactivated λ-phosphatase (Iλ-PP) for 20 min at 37℃ significantly decreased the levels of upper immunolabeled band, indicating it as the phosphorylated form of STEP.

**Supplementary Figure S3. The expression of NMDA receptor-mediated fEPSP and LTP in slices obtained from rats injected with D-APV**

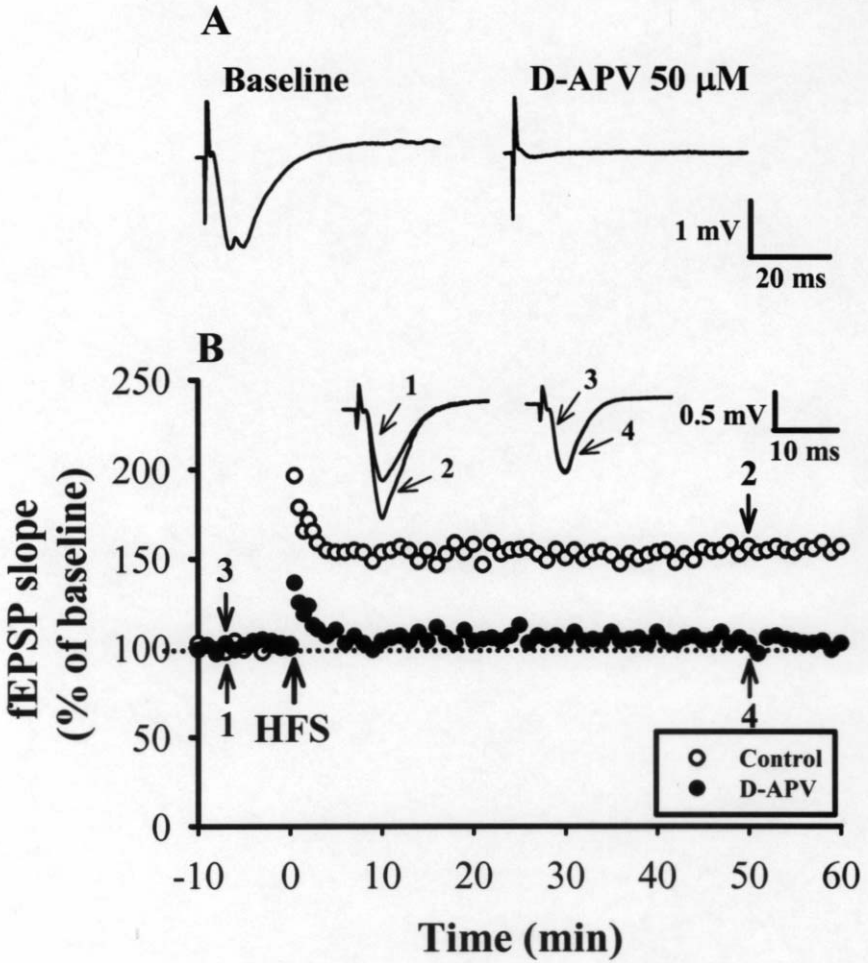
*A*, averaged fEPSPs (five consecutive sweeps) evoked in the hippocampal CA1 region by stimulating the Schaffer-collateral afferent inputs in the presence of bicuculline methchloride (20 μM), CNQX (10 μM), and 0.5 mM $Mg^{2+}$. Perfusing the slices with NMDA receptor antagonist D-APV (50 μM) completely abolished the synaptic response. *B*, a representative experiment showing the time course of the action of D-APV (50 μM) on the induction of LTP following HFS. Bath application of D-APV completely blocked the induction of LTP.




**Supplementary Figure S1. Yang et al., 2006**




**Supplementary Figure S2. Yang et al., 2006**




**Supplementary Figure S3. Yang et al., 2006**