



Supplementary data: **A.** AAV-shRNA for *V1aR* effectively reduced the *V1aR* mRNA level in the hippocampus compared with that in the control or scrambled controls. **B.** There was no difference on the VP level in hippocampus among SAE-EE, SAE-EE-shRNA, SAE-EE-anti-VP serum, and SAE-EE-49059 groups. ** $p < 0.01$. Data represent the means \pm standard error of the mean. VP: vasopressin; EE: environmental enrichment; SAE: sepsis-associated encephalopathy; shRNA: short hairpin RNA.