

Drugs

Drugs were dissolved in saline and administered s.c. in a volume of 10 ml/kg. In the microdialysis experiment, saline, METH (1 mg/kg), or PCP (3 mg/kg) was administered after establishing a stable baseline, and the dialysate was continuously collected for 180 min. In the acute behavioral experiments, saline, freshly prepared METH (1 mg/kg; Dainippon Sumitomo Pharma, Osaka, Japan), or PCP (3 mg/kg; Shionogi Pharmaceutical Co. Ltd., Osaka, Japan) was administered. In the repeated behavioral experiments, METH (1 mg/kg) or PCP (3 mg/kg) was administered repeatedly at 2 or 3 day intervals for a total of seven injections. One week after withdrawal, METH or PCP challenge injections were administered as described above.

Statistical analysis

DA_{ex} responses to drugs are expressed as a percentage of baseline. The AUC of DA_{ex} during the 180 min period after drug administration was calculated as the effects of the drugs. Area-under-the-curve values of all groups were analyzed using two-way ANOVA. Individual *post hoc* comparisons were performed with Fisher's PLSD test. The responses to acute administration were analyzed using Student's *t*-test, one-way ANOVA, or two-way ANOVA. To evaluate behavioral sensitization, the response to

drugs in Session 8 was compared with the response to the first drug injection (Session 1) in the same animal using a paired *t*-test or mixed-design ANOVA. Values of $p < 0.05$ were considered statistically significant. Data were analyzed using Statview J5.0 software (SAS Institute, Cary, NC, USA).

Supporting Information

Table S1 Striatal gene expression in wildtype and GluR ϵ 4^{-/-} mice.

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Author Contributions

Conceived and designed the experiments: YH KI. Performed the experiments: YH HY. Analyzed the data: YH HY. Contributed reagents/materials/analysis tools: SK HY TN MM. Wrote the paper: YH WH TN MM KI.

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