Electronic Supplementary Material (ESI) for Food & Function.

Supporting Information

6-Paradol and its glucoside improve memory disorder in mice

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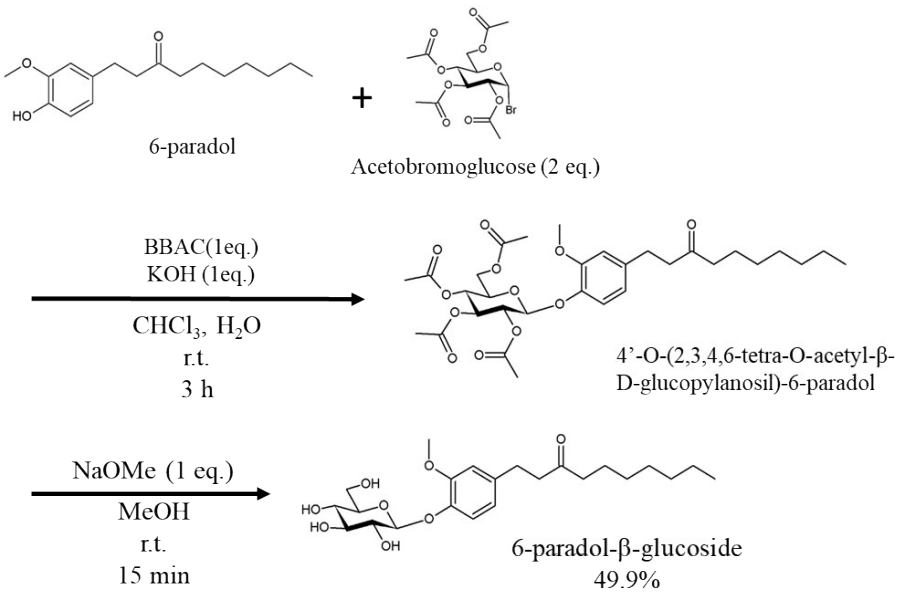

Fig. S1 Synthesis scheme of 6-paradol-β-glucoside.

BBAC: benzyltributylammonium chloride

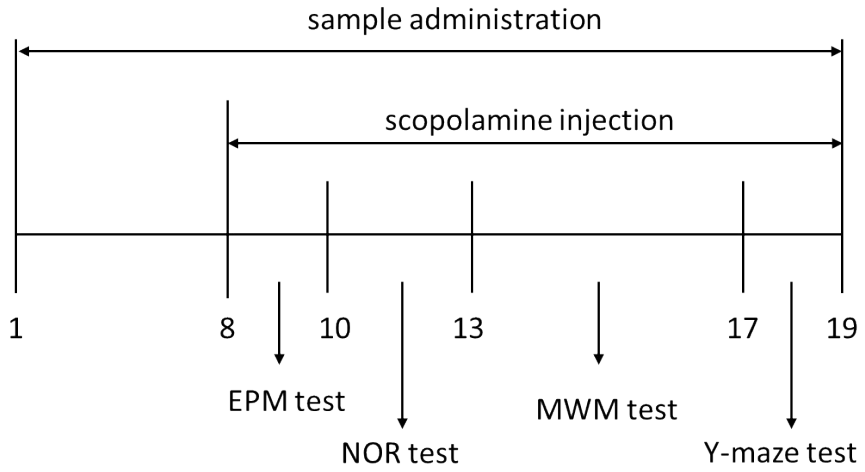

Fig. S2 Timetable of behavior tests on scopolamine-induced mice.

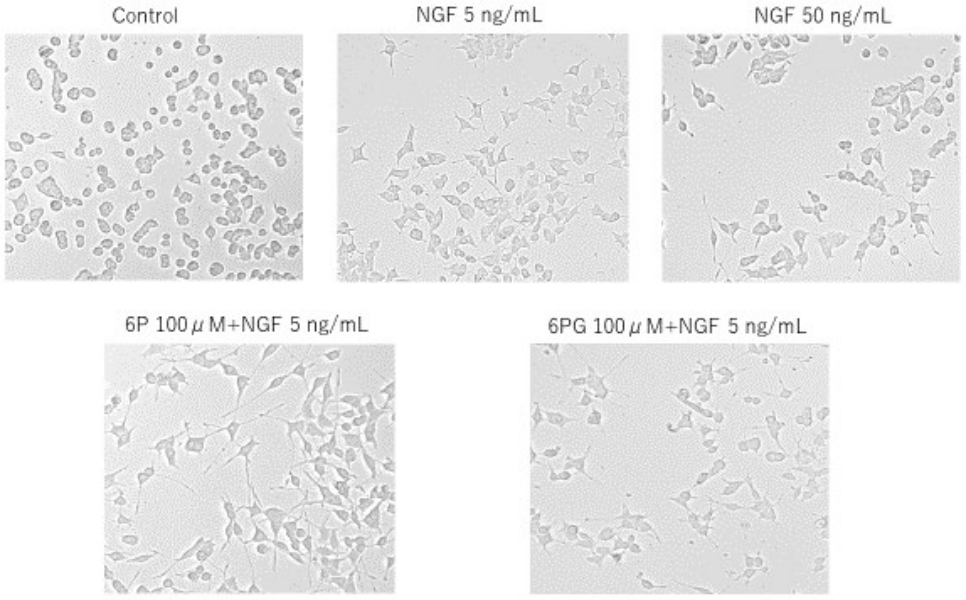

Fig. S3 Microscopic observation of PC12 cells treated with 6P (100 μM) or 6PG (100 μM) with NGF (5 ng/mL) for 72 h.

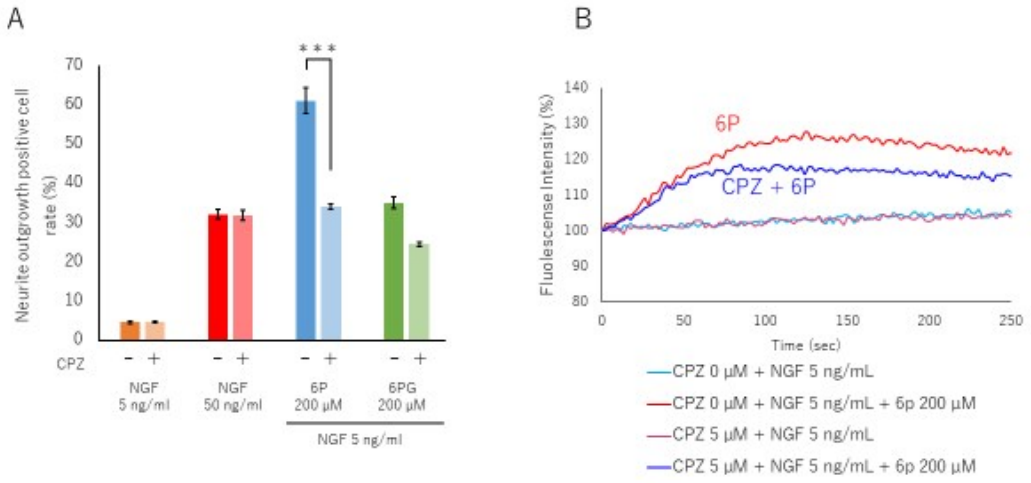

Fig. S4 Effect of TRPV1 inhibitor, capsazepine (CPZ), on the effect of neurite outgrowth and Ca^{2+} influx of 6P. A: The cells were pre-incubated with 0.5 μM of CPZ for 30 min followed by replacing the new medium containing 6P 200 μM and NGF 5ng/mL with CPZ 1 μM. After 72 h incubation, the cells were observed to evaluate the neurite outgrowth. B: Ca^{2+} influx was measured after the treatment with 5 μM CPZ for 30 min. ***P<0.001 (Tukey-Kramer test) as compared with CPZ 0 μM condition (A).

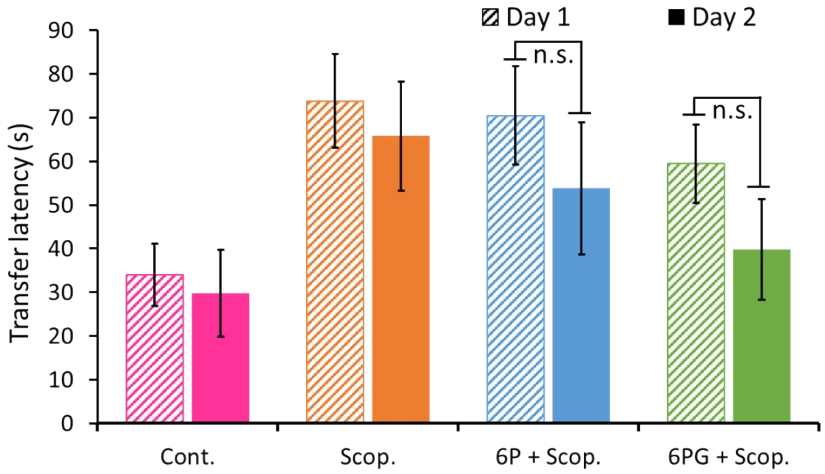

Fig. S5 Effect of 6P and 6PG on transfer latency in scopolamine-treated mice in EPM test. After administrated sample and injected scopolamine, the mice were individually placed at the end of an open arm facing away from the central platform and the time it took for the mice to move from the open arm to the enclosed arms (transfer latency, TL) was recorded. The retention memory process was tested after 24 h following first trial. Reduction of the TL in the retention trial means that the mice memories first trial in other word improving the memories. The data are means ±S.D. (n=6). *P<0.05 , **P<0.01, (Dunnett's test) as compared day 1 test.

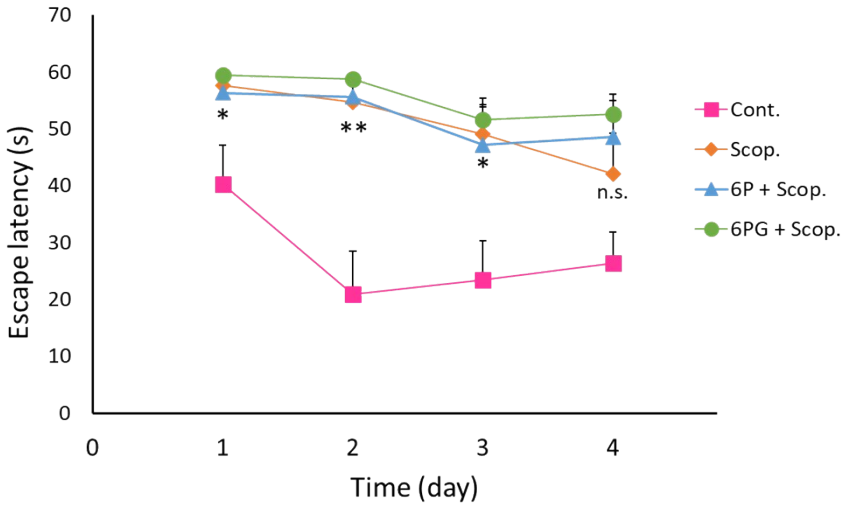

Fig. S6 Effect of 6P or 6PG on escape latency behavior in scopolamine-treated mice in MWM test. After administrated sample and injected scopolamine, spatial learning was evaluated for 4 consecutive days. The time taken for the mice to locate the escape platform was. The interval was 60 s between the trials. Each mouse was subjected to a daily session of 4 trials per day for 4 days. The data are means ±S.D. (n=6). *P<0.05 , **P<0.01, (Dunnett's test) as compared control group of each days.