



keyword autism propionic acid social behavior acetylcholine

Propionic acid-induced autism-like model

We will introduce a test using an autism-like model, in which inflammation is induced in the brain by administration of propionic acid.
Please feel free to contact us if you have any questions about the details.

Schedule and Method

Species: Rats

Inducer: Propionic acid (PPA)

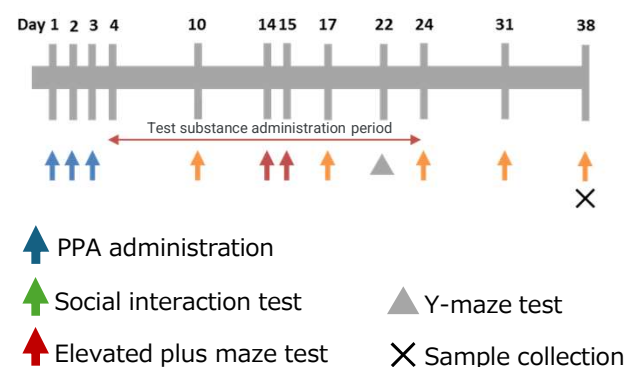
Control substance: Oxiracetam

Induction method: Oral PPA administration once a day for 3 days

Evaluation items:

- Social interaction test
- Y maze test (spontaneous alternation behavior test)
- Elevated plus maze test
- Measurement of neurotransmitter content in the brain (monoamines and their metabolites, acetylcholine, and glutamic acid)

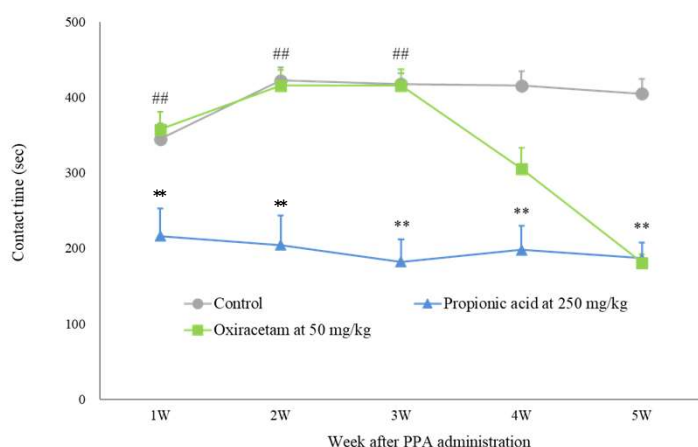
Test Schedule



Results

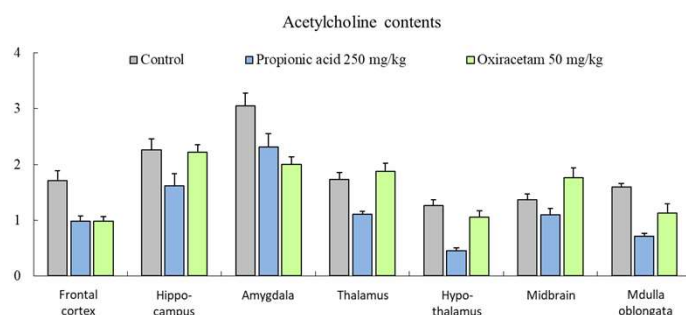
Social interaction test

PPA significantly reduced social behavior.



Measurement of neurotransmitter content in the brain

PPA significantly reduced acetylcholine content in the brain.



Value are expressed as the mean $\pm$ SE (n=8).

*p<0.05, **p<0.01 vs. control,

#p<0.05, ##p<0.01 vs. propionic acid