



## Anxiolytic-like activity of MGS0039, a selective group II mGlu receptor antagonist, is serotonin- and GABA-dependent

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### Abstract:

In the present study, we examined the anxiolytic-like effects of (1R,2R,3R,5R,6R)-2-amino-3-(3,4-dichlorobenzoyloxy)-6-fluorobicyclo[3.1.0]hexane-2,6-dicarboxylic acid (MGS0039), a mGluR2/3 antagonist, in the Vogel conflict drinking test in rats. MGS0039 administered at the doses of 1 and 2 mg/kg *ip* (yet not at 3 mg/kg) produced anxiolytic-like effects in this test. Diazepam (2.5–10 mg/kg) was used as a reference drug. In the second part of our experiment, MGS0039 was tested at an effective dose of 2 mg/kg after a mixed injection with ritanserin (5-HT<sub>2A/C</sub> receptor antagonist) and WAY100635 (5-HT<sub>1A</sub> receptor antagonist) or flumazenil (benzodiazepine receptor antagonist), and all of the compounds were found to attenuate the effect of MGS0039. The above results indicate that the mGluR2/3 antagonist MGS0039 may play a role in the therapy of anxiety and that its action may be mediated by serotonin and the GABAergic systems.

### Key words:

MGS0039, anxiety, conflict drinking Vogel test, rats

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