Pharmacological Reports
2011, 63, 1533–1538
ISSN 1734-1140

Short communication

Enhancement of the anti-immobility action of antidepressants by risperidone in the forced swimming test in mice

Zofia Rogóż, Marcin Kabziński

Department of Pharmacology, Institute of Pharmacology, Polish Academy of Sciences, Smętna 12, PL 31-343 Kraków, Poland

Correspondence: Zofia Rogóż, e-mail: rogoz@if-pan.krakow.pl

Abstract:
The aim of the present study was to examine the effect of antidepressants (ADs) belonging to different pharmacological groups and risperidone (an atypical antipsychotic drug), given separately or jointly, on immobility time in the forced swimming test in male C57BL/6J mice. The antidepressants: citalopram, fluvoxamine, sertraline, reboxetine, milnacipran (5 and 10 mg/kg), or risperidone in low doses (0.05 and 0.1 mg/kg) given alone did not change the immobility time of mice in the forced swimming test. Co-treatment with reboxetine or milnacipran (10 mg/kg) and risperidone in a lower dose of 0.05 mg/kg or with sertraline, reboxetine (5 and 10 mg/kg), citalopram, fluvoxamine, milnacipran (10 mg/kg) and risperidone in a higher dose of 0.1 mg/kg produced antidepressant-like effect in the forced swimming test. WAY 100635 (a 5-HT_{1A} receptor antagonist) inhibited the effects induced by co-administration of ADs and risperidone. Active behavior in the forced swimming test was not a consequence of an increased general activity, since the combined treatment with ADs and risperidone failed to enhance the locomotor activity of mice. The obtained results indicate that a low dose of risperidone enhances the activity of ADs in an animal model of depression, and that, among other mechanisms, 5-HT_{1A} receptors may play a role in these effects.

Key words:
antidepressant drugs, risperidone, forced swimming test, mice