

Genistein regulated serotonergic activity in the hippocampus of ovariectomized rats under forced swimming stress. cines

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The mortality of individuals suffering from depression has been increasing, especially post-menopausal women; therefore, their care and treatment are important to maintain a high quality of life.

In the present study, we evaluated the antidepressant-like effects of a major isoflavonoid, genistein (4',5,7-trihydroxyisoflavone), using a behavioral model of depression, the forced swimming test (FST), in ovariectomized rats. Daily administration of genistein to ovariectomized rats at a dosage of 10 mg/kg of body weight/d for 14 d significantly reduced the immobility time during the FST without changing motor dysfunction. On the other hand, a higher dosage, 100 mg/kg/d, did not have any effects on the immobility time compared with the vehicle control. Repeated administration of genistein at 10 mg/kg of body weight did not affect serotonergic activities in the hippocampus compared to the vehicle control in ovariectomized rats. A 5-min FST trial stimulated these activities. On the other hand, repeated pretreatment with genistein protected against changes in activity during the FST trial.

These results suggest that daily consumption of genistein 10 mg/kg/d might have antidepressant-like effect on ovariectomized rats by regulating changes in serotonergic metabolism in the hippocampus under stressful conditions.