



Short communication

N-palmitoylethanolamide, an endocannabinoid, exhibits antidepressant effects in the forced swim test and the tail suspension test in mice

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Abstract:

The antidepressant-like effects of N-palmitoylethanolamide (PEA), a putative endocannabinoid, was investigated in mice using the tail suspension test (TST) and the forced swimming test (FST). In TST, PEA (10, 20, and 40 mg/kg) produced a statistically significant reduction in immobility (50, 32, and 34%, respectively, vs. the control group), whereas fluoxetine (20 mg/kg) reduced immobility by 38%. In FST, PEA (5, 10, and 20 mg/kg) produced a statistically significant reduction in immobility (15, 21, and 36%, respectively), whereas fluoxetine (20 mg/kg) reduced immobility by 18%. Moreover, PEA (20 mg/kg) did not significantly change motor activity in a spontaneous behavioral test. In conclusion, PEA (dose range of 5–40 mg/kg) administered orally reduced immobility in TST and FST, comparable to the antidepressant effect of fluoxetine, and had no effect on spontaneous activity in mice.

Key words:

N-palmitoylethanolamide, forced swimming test, tail suspension test, open-field test
