

Antidepressant and antioxidant activities of some γ -benzoxazolinone derivatives as bupropion analogues

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Abstract

Recently we described the design and synthesis of four bupropion analogues, γ -Methyl- γ -(substitutedamino) propionyl]- γ -benzoxazolinone as antidepressant. Bupropion is a norepinephrine and dopamine reuptake inhibitor which is used as antidepressant. These compounds were studied for the antidepressant activity using forced swimming test in mice. All analogues were found to be effective in comparison to control at the doses 1, 2-20 mg/kg. The activity of analogues was comparable to that of bupropion at the some doses. In addition, antioxidant activity of these derivatives was investigated, employing DPPH radical scavenging activity. IC₅₀ was in the order: piperidino (107.6 ± 0.03) > diethylamino (142.1 ± 1.27) > tert-butylamino (370.8 ± 1.23) > morpholino (230.6 ± 3.04) mg ml⁻¹, respectively.

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Antidepressant activity; Antioxidant activity; Benzoxazolinone; Bupropion; Forced swimming test

Indexed Keywords

EMTREE drug terms: 1,1 diphenyl γ picrylhydrazyl; γ benzoxazolone derivative; amfebutamone; antidepressant agent; antioxidant

EMTREE medical terms: animal experiment; antidepressant activity; antioxidant activity; article; controlled study; drug activity; drug efficacy; drug structure; drug synthesis; forced swimming test; IC₅₀; male; mouse; nonhuman

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