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Isobolographic analysis of the antinociceptive interaction between tramadol and diphenhydramine in Mice

Abstract:

Tramadol was administered alone at (10 to 60) mg/kg I.P produced analgesia in a dose dependent manner and the Maximal Possible Effect (MPE) was obtained at 40 minutes after tramadol administrated. The analgesic activity of diphenhydramine, also were evaluated after administration of drug at (0.25 to 8) mg/kg S.C produced an analgesic effect in mice in dose depended manner and the %MPE was obtained after 10 minutes from injected of the drug. This study was observed that the combination of tramadol and diphenhydramine produced antagonist interaction this was evaluated by the isobolographic analysis. Isobolographic analysis found that administration of tramadol (ED50) with diphenhydramine(ED50) in a ratio (1:0.5, 1:1, 1:2, 0.25:1, and 0.5:1) that produced an antagonist interactive between two drugs, this lead to increase the dose of tramadol that needed to produce the analgesic effect. This study concluded that the administration of tramadol with diphenhydramine produce antagonist effects.