

Adenosine modulates the antinociceptive action of benzodiazepines

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1. 1. In the present study, adenosine modulation on the antinociceptive action of benzodiazepines (BZD) using the writhing test in mice was evaluated. 2. 2. The i.c.v. BZDs tested (diazepam, midazolam and lorazepam) induced a dose-dependent antinociceptive action, that was not antagonized either by naloxone or by aminophylline. 3. 3. The i.p. administration of adenosine-related compounds also produced a dose-dependent reduction in the number of writhings in mice. These effects were not antagonized by i.p. injection of naloxone but were antagonized by i.p. aminophylline. 4. 4. The antinociceptive effect of BZDs was significantly enhanced by the administration of adenosine compounds, but this increased response was not modified by naloxone or by aminophylline. 5. 5. The present findings could be explained by the fact that BZDs and adenosine-related compounds may interact in an additive manner, since the effects of these drugs may be due to a common mechanism of action or a common pathway