

论文

腺苷类似物WS090501的镇静、催眠和抗惊厥作用

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摘要:

关键词: 腺苷类似物 腺苷A1R 腺苷A2AR NREM 睡眠 自主活动

Sedative, hypnotic and anticonvulsive effects of an adenosine analogue WS090501

Abstract:

This study is to examine the sedative, hypnotic and anticonvulsive effects of an adenosine analogue, WS090501. The spontaneous locomotor activity was recorded by open field equipment, and the EEG of rats was recorded by polyphysiograph. Pentylenetetrazol (PTZ)-induced seizure model was used. The spontaneous locomotor activity was decreased by WS090501 at various doses (0.06, 0.13, and 0.25 mg·kg<sup>-1</sup>), and the decreasing rate was 28.4%, 47.1% and 61.2% respectively. Furthermore, the effect of WS090501 on spontaneous locomotor activity of mice can be antagonized by DPCPX, a selective adenosine A<sub>1</sub>R antagonist, but significantly increased by WS090501 (0.05 and 0.2 mg·kg<sup>-1</sup>), and the increasing rate was 27.6% and 102.8%, respectively, at 6th hour after administration. The REM sleep decreased significantly at the higher dose. PTZ induced serious convulsion in mice. The latency of convulsion was prolonged, and the number of seizure and mortality decreased after administration of WS090501. These results show that WS090501 has potent sedative, hypnotic and anticonvulsive effects, which may be mediated through adenosine A<sub>1</sub>R.

Keywords: adenosine analogue adenosine A<sub>1</sub>R adenosine A<sub>2A</sub>R NREM sleep locomotor activity

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