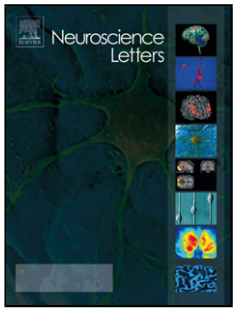

Title: The blockade of $GABA_A$ receptors attenuates the inhibitory effect of orexin type 1 receptors antagonist on morphine withdrawal syndrome in rats

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The blockade of $GABA_A$ receptors attenuates the inhibitory effect of orexin type 1 receptors antagonist on morphine withdrawal syndrome in rats

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Highlights:

- OX1Rs are involved in morphine withdrawal syndrome in LC nucleus.
- Intra-LC microinjection of SB-334867 attenuated morphine withdrawal signs.
- Bicuculline abolished the effect of SB-334867 on morphine withdrawal signs.

Abstract

The aim of present study was to investigate the involvement of orexin-A neuropeptide in naloxone-induced morphine withdrawal syndrome via modulating neurons bearing $GABA_A$ receptors. The locus coeruleus (LC) is a sensitive site for expression of the somatic aspects of morphine withdrawal. Intra-LC microinjection of $GABA_A$ receptor agonist attenuates morphine withdrawal signs in rats. Here we studied the influence of LC orexin type 1 receptors blockade by SB-334867 in presence of bicuculline, a $GABA_A$ receptor antagonist, on naloxone-induced morphine withdrawal syndrome.

Adult male Wistar rats, weighing 250–300 g, were rendered dependent on morphine by subcutaneous (s.c.) injection of increasing morphine doses (6, 16, 26, 36, 46, 56 and 66