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## Orexin receptors mediate long-term depression of excitatory synaptic transmission in the spinal cord dorsal horn

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### Highlights

- Repetitive electrical stimulation of Lissauer's tract zone at 2 Hz for 5 min (600 pulses), combined with a holding potential of -30 mV, induced long term depression(LTD) of the amplitude of excitatory postsynaptic currents (EPSCs)
- In addition, LTD was dependent on the NMDA receptor as the NMDA receptor antagonist D-AP5 blocked the maintenance of LTD.
- The maintenance of LTD was significantly prevented by bath application of SB674042 (1  $\mu$ M), an orexin receptors type 1 antagonist, or EMPA (1 $\mu$ M), an orexin receptor type 2 antagonist. Therefore, activation of both OX1 and OX2, play a significant role in the expression of NMDA-dependent LTD.

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