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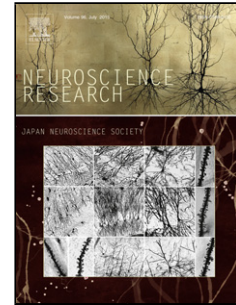
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The Roles of Orexins in Sleep/Wake Regulation

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Highlights

- Disruption of the orexin system causes the sleep disorder narcolepsy
- Orexin neurons stabilize wakefulness by promoting monoaminergic neurons
- Two orexin receptor subtypes differentially regulate sleep/wakefulness
- Orexin neurons suppress narcolepsy via at least two distinct efferent pathways
- Orexin neurons regulate wakefulness according to external and internal environment

ABSTRACT

Orexin A and orexin B are hypothalamic neuropeptides initially identified as endogenous ligands for two orphan G-protein coupled receptors (GPCRs). A deficiency of orexin signaling results in the sleep disorder narcolepsy-cataplexy in humans, dogs, and rodents, a sleep disorder characterized by excessive daytime sleepiness and cataplexy. Multiple approaches, including molecular genetic, electrophysiological,

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