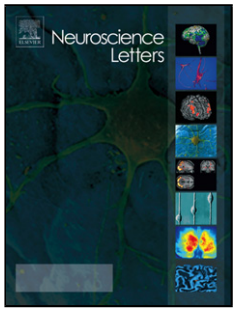

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Orexin knockout mice exhibit impaired spatial working memory

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Highlights

- Knockout of orexin gene impaired mouse spatial working memory in the T-maze task.
- Orexin deficiency impaired spatial recognition.
- Knockout of orexin gene did not affect the animal's locomotor activities.

Abstract

Orexins play a crucial role in the maintenance of arousal and are involved in the modulation of diverse physiological process, including cognitive function. Recent data have suggested that orexins are involved in learning and memory processes. **The purpose of this study was to assess the effects of orexin deficiency on working memory.** A delayed non-matching-to-place T-maze task was used to evaluate spatial working memory in mice lacking orexin prepro-peptide (orexin knockout; KO) and wild-type controls. We demonstrated that the number of correct choices in the orexin KO mice became lower than that of the controls over training. In an object exploration task, the controls explored the displaced object more than the mutants did,