

Orexin-B-saporin lesions in the lateral hypothalamus enhance photic masking of rapid eye movement sleep in the albino rat

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The 24-h distribution of rapid eye movement (REM) sleep is known to be deeply reshaped among albino rats with neurotoxic lesions in the lateral hypothalamus (LH) or among rodent models of human narcolepsy-cataplexy, with selective damage of orexinergic neurones. We explored the hypothesis that this phenomenon is explained by an enhancement of REM sleep photic masking, as a consequence of damage in the LH. Orexin-B-saporin neurotoxic lesions were induced in the LH of male Sprague-Dawley rats. LH-lesioned and control rats were sleep-recorded successively under 12:12 light/dark (LD) and skeleton photoperiod. Compared to controls, lesioned rats exhibited 50% less and 82% more REM sleep during rest and active phases, respectively, under the 12:12 LD schedule. After transference to a skeleton photoperiod, lesioned rats exhibited an 88% increase in REM sleep during the rest phase, recovering the characteristic rest phase preference of REM sleep observed among control rats. The increase in res