

Extrahypothalamic oxytocin neurons drive stress-induced social vigilance and avoidance

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The neuropeptide oxytocin is thought to reduce anxiety. However, Duque-Wilckens and colleagues demonstrate that oxytocin within the bed nucleus of the stria terminalis (BNST) is necessary and sufficient for stress-induced social anxiety behaviors. Specifically, oxytocin synthesis within medioventral (BNSTmv) is required for long-term changes in social avoidance and social vigilance following social defeat stress in female California mice. Viral tracing revealed BNSTmv oxytocin neurons project to regions that control defensive behaviors, including the anteromedial BNST (BNSTam). When oxytocin was administered into the BNSTam, it reduced social approach and increased vigilance in stress naïve male and female California mice. These findings suggest that differential effects of oxytocin on anxiety behaviors are attributable to circuit-specific oxytocin action.

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