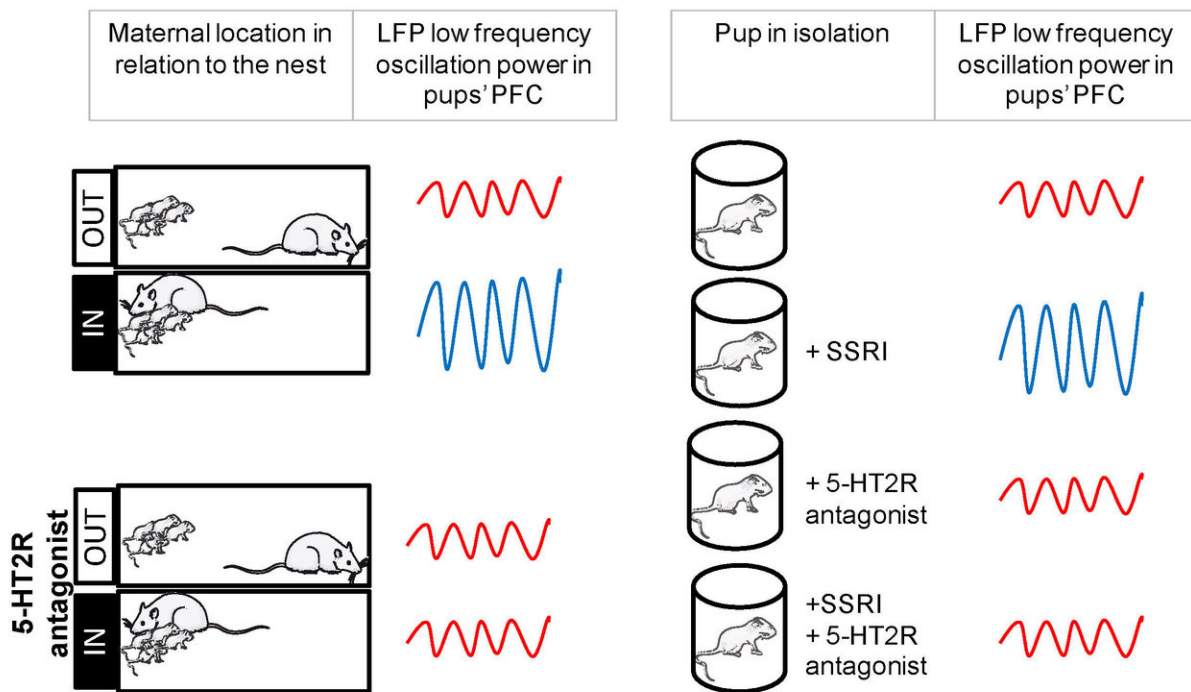


# Mother's touch supports pup's brain development

July 23 2018



A mother's presence may have immediate and long-term effects on her child's developing brain by modulating the serotonin system, suggests a study of rat moms and their pups published in eNeuro. The research provides a potential mechanism by which separating a child from his or her mother early in life could derail development. Credit: Courtiol et al., eNeuro (2018)

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By wirelessly recording the [brain](#) activity of rat pups during interaction with their mother, Catia Teixeira and colleagues provide evidence for a direct connection between maternal care and the neurotransmitter serotonin—two factors known to be crucially involved in brain development. The researchers demonstrate that a mother's presence in the nest increases activity in the pups' [prefrontal cortex](#), a slowly developing brain region rich in serotonin receptors. Blocking these receptors counteracted the effect, while treating isolated pups with the selective-serotonin-reuptake-inhibitor fluoxetine increased prefrontal cortex activity similarly to that observed in the mother's presence. These results implicate maternal contact and the [serotonin](#) system as important regulators of neuronal activity in the developing brain.

**More information:** Emmanuelle Courtiol et al, Maternal Regulation of Pups' Cortical Activity: role of Serotonergic Signaling, *eneuro* (2018). [DOI: 10.1523/ENEURO.0093-18.2018](https://doi.org/10.1523/ENEURO.0093-18.2018)

Provided by Society for Neuroscience

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