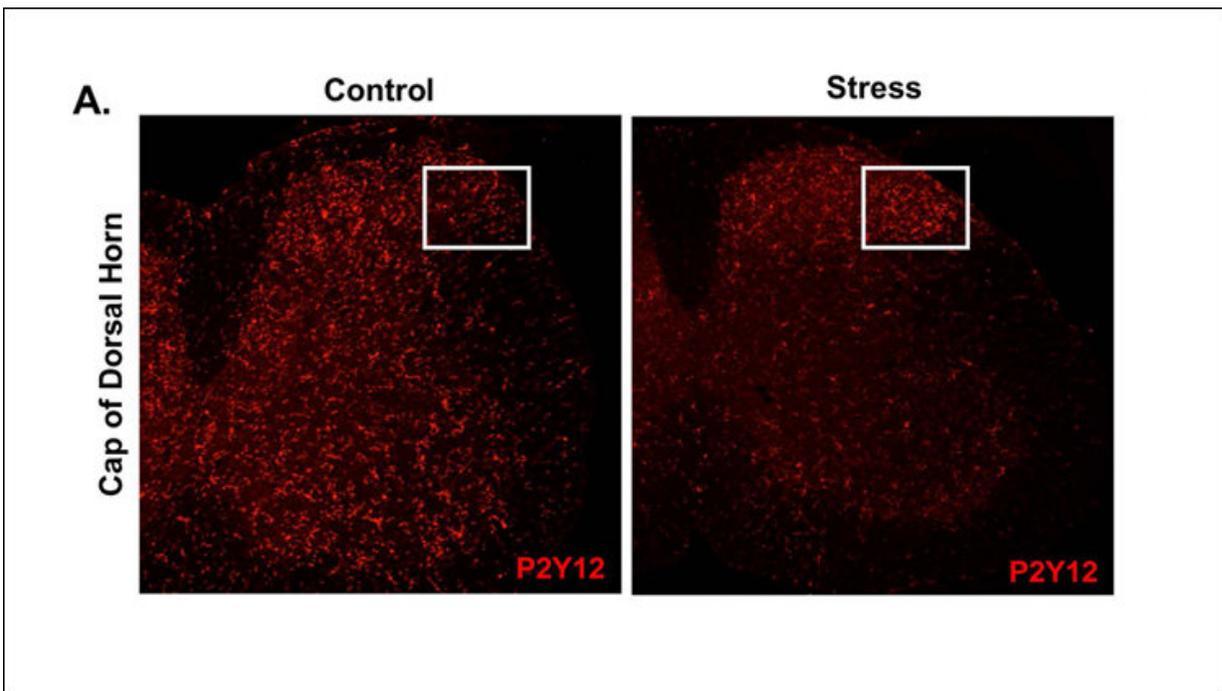


# Microglia transmit pain to the brain during stress

December 17 2018



Repeated social defeat caused region-specific microglial activation in the spinal cord. Male C57BL/6 mice were subjected to six days of repeated social defeat (Stress) or left undisturbed as controls (Con). Mice were perfused and spinal cords were paraformaldehyde (PFA) fixed 14 hours after the last day of stress. Microglial activation (P2Y12 expression) was assessed in the lumbar spinal cord. A) Representative images within the cap of the dorsal horn of P2Y12 labeling. Credit: Sawicki et al., *JNeurosci* (2018)

Research in male mice published in *JNeurosci* demonstrates activation of microglia in the spinal cord is responsible for increased pain sensitivity in response to stress.

John Sheridan and colleagues identified an inflammatory environment in the spinal cord caused by repeated exposure to an aggressive mouse—an established model of psychosocial stress—that accompanied lower pain thresholds observed in the stressed mice.

Stress increased expression of inflammatory genes and activation of microglia in spinal cord regions involved in pain processing. Eliminating microglia from the [spinal cord](#) prevented these effects.

These findings suggest a new cellular target for alleviating stress-induced pain.

**More information:** Microglia Promote Increased Pain Behavior through Enhanced Inflammation in the Spinal Cord During Repeated Social Defeat Stress, *JNeurosci* (2018). DOI:

[www.jneurosci.org/lookup/doi/10.1523/JNEUROSCI.2785-18.2018](http://www.jneurosci.org/lookup/doi/10.1523/JNEUROSCI.2785-18.2018)

Provided by Society for Neuroscience

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