

Crocine

A study investigated the protective effects and mechanisms of crocin, an extract of saffron, on brain damage after traumatic brain injury (TBI) in mice. C57BL/6 mice were subjected to controlled cortical impact (CCI)-induced TBI. Pretreatment with crocin (20mg/kg) had protective effects against TBI, demonstrated by improved neurological severity score (NSS) and brain edema, decreased microglial activation and release of several pro-inflammatory cytokines, and decreased cell apoptosis. TBI activated Notch signaling, as shown by upregulated levels of Notch intracellular domain (NICD) and Hes1 mRNA, and pretreatment with crocin further increased Notch activation. However, pretreatment with DAPT (100mg/kg), a gamma-secretase inhibitor, significantly suppressed crocin-induced activation of Notch signaling and attenuated the ability of crocin to protect mice against TBI-induced inflammation and apoptosis. Therefore, these results suggest that crocin has neuroprotective effects against TBI in mice, and these effects are at least partially dependent on activation of Notch signaling

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Wang K, Zhang L, Rao W, Su N, Hui H, Wang L, Peng C, Tu Y, Zhang S, Fei Z. Neuroprotective effects of crocin against traumatic brain injury in mice: Involvement of notch signaling pathway. *Neurosci Lett*. 2015 Feb 11. pii: S0304-3940(15)00121-4. doi: 10.1016/j.neulet.2015.02.016. [Epub ahead of print] PubMed PMID: 25681620.

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