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## Pharmacologyonline

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Anti-nociceptive effect of safranal, a constituent of *Crocus sativus* (saffron), in miceHosseinzadeh, H.<sup>a</sup>, Shariaty, V.M.<sup>b</sup><sup>a</sup> Pharmaceutical Research Center, Faculty of Pharmacy, Mashhad University of Medical Sciences, P.O. Box 1365-91775, Mashhad, Iran<sup>b</sup> Pharmaceutical Research Center, Mashhad University of Medical Sciences, Mashhad, Iran

## Abstract

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Safranal is one of the main constituents of saffron. In view of previous reports of anti-nociceptive activity of saffron, we examined the anti-nociceptive property of safranal. Antinociceptive activity was determined using hot-plate, writhing and formalin tests in mice. Safranal at doses 0.1, 0.3 and 0.5 ml/kg/ip inhibited the abdominal constrictions induced by acetic acid and also at 0.5 ml/kg/ip increased the pain threshold of mice against the thermal source only at 30 min after treatment. In formalin test, safranal at doses 0.05 ml/kg/ip significantly decreased pain-related behaviors in phase I and with lower dose (0.05 and 0.025 ml/kg/ip) phase II. Generally, naloxone (2 mg/kg, subcutaneously) did not abolish the anti-nociceptive effects of safranal completely. Our results showed that safranal have anti-nociceptive activity in chemical (formalin and acid acetic tests) methods and this effect may be mediated more peripherally.

## Reaxys Database Information

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## Author keywords

Anti-nociceptive; Formalin test; Hot Plate test; Saffron; Safranal; Writhing test

## Indexed Keywords

EMTREE drug terms: acetic acid; *Crocus sativus* extract; formaldehyde; morphine; naloxone; safranal; unclassified drug

EMTREE medical terms: animal behavior; animal experiment; animal model; article; controlled study; drug activity; drug effect; drug mechanism; drug megadose; hot plate test; low drug dose; male; mouse; nociception; nonhuman; pain; pain threshold; writhing test

Chemicals and CAS Registry Numbers: acetic acid, 127-08-2, 127-09-3, 64-19-7, 71-50-1; formaldehyde, 50-00-0; morphine, 52-26-6, 57-27-2; naloxone, 357-08-4, 465-65-6

Manufacturers: Drug manufacturer: Fluka.

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