

# Anti-inflammatory and antinociceptive effects of *Rosmarinus officinalis* L. essential oil in experimental animal models

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## Abstract

*Rosmarinus officinalis* L. (Family Lamiaceae), popularly named rosemary, is a common household plant grown in many parts of the world, including Brazil. Rosemary leaves are used for food flavoring and have been used in folk medicine for many conditions; they have antispasmodic, analgesic, antirheumatic, carminative, cholagogue, diuretic, expectorant, and antiepileptic effects. The objective of this study was to evaluate the effects of rosemary essential oil (REO) on experimental models of nociception and inflammation in animals. The anti-inflammatory effect of REO was evaluated by inflammatory exudate volume and leukocyte migration in carrageenan-induced pleurisy and carrageenan-induced paw edema tests in rats. Antinociception was evaluated using the acetic acid-induced writhing and hot plate tests in mice. REO (500 mg/kg) significantly reduced the volume of pleural exudate and slightly decreased the number of cells that had migrated compared with the control animals. At doses of 250, 500, and 750 mg/kg, REO significantly inhibited carrageenan-induced edema 1-4 hours after injection of the phlogistic agent. In the hot plate test, REO administration (125, 250, and 500 mg/kg) showed unremarkable effects on response latency, whereas control injection of meperidine induced significant antinociceptive effects. REO at doses of 70, 125, and 250 mg/kg had a significant antinociceptive effect in the acetic acid-induced abdominal writhing test compared with control animals. These data suggest that REO possesses anti-inflammatory and peripheral antinociceptive activity.

**Key Words:** Bignoniaceae, Dolichandrone falcate, Anti-inflammatory, Antinociceptive

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