

## Preliminary analysis of the anti-inflammatory activity of essential oils of *Zingiber zerumbet*.

### Abstract

Nonsteroidal anti-inflammatory drugs (NSAIDs) have been widely used for the treatment of inflammation. However, despite their effectiveness, most NSAIDs cause various side effects that negatively affect the management of inflammation and, in part, pain. Thus, there is a need to search for new anti-inflammatory agents with few, or no, side effects. Natural products of plant, animal, or microorganism origin have been good sources of new bioactive compounds. The present study was carried out to evaluate the acute and chronic anti-inflammatory activities of the essential oil of the rhizomes of *Zingiber zerumbet* (Zingiberaceae) using the carrageenan-induced paw edema and cotton pellet-induced granuloma tests, respectively. The effect of the essential oil on inflammatory- and noninflammatory-mediated pain was also assessed using the formalin test. Essential oil of *Z. zerumbet*, at doses of 30, 100, and 300 mg/kg, was administered intraperitoneally to rats. The substance exhibited significant anti-inflammatory activity both in acute and chronic animal models. The essential oil also inhibited inflammatory- and noninflammatory-mediated pain when assessed using the formalin test. In conclusion, the essential oil of *Z. zerumbet* possessed anti-inflammatory activity, in addition to its antinociceptive activity, which may explain its traditional uses to treat inflammatory-related ailments.

**Keyword:** Anti-inflammatory; Antinociceptive; Essential oil; *Zingiber zerumbet*; Zingiberaceae.