

## Spasmolytic activity of pulegone on the isolated bovine ileum contractions

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### Abstract

Gastrointestinal dysmotility is important in ruminants. Pulegone is a natural monoterpene ketone obtained from the essential oil of different plants. It has been reported that pulegone has an antibacterial, antifungal, and anti-histamine effect. The present study investigated the effects of pulegone on bovine ileum smooth muscle contractions. The experiment was performed on the circular smooth muscle of ileum samples taken from slaughtered bovine in the organ bath. Seven cumulative concentrations of pulegone from 1 to 1000  $\mu\text{g ml}^{-1}$  were added to tissue samples. The solution used was Tyrode's solution aerated with a mixture of 95% oxygen and 5% carbon dioxide, and the temperature was set at 37 °C. The effect of pulegone on baseline contractions and three induced contractions with barium chloride ( $\text{BaCl}_2$ ), potassium chloride (KCl), and carbachol (Cch) was investigated. The results revealed that pulegone significantly inhibits spontaneous, as well as all spasmogen-induced contractions. Pulegone was able to relax the contractions caused by Cch,  $\text{BaCl}_2$ , and KCl (20) at 30  $\mu\text{g ml}^{-1}$ . The anti-spasmodic properties of pulegone can be employed for the treatment of intestinal spasms or hypermotility.

**Key words:** Spasmolytic, Pulegone, Ileum, Bovine

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