

STIMULATORY EFFECT OF ISOLATED DIHYDROXY BENZOQUINONE ON IMMUNE CELLS IN SRBC INDUCED DELAYED HYPERSENSITIVITY IN WISTAR RATS

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ABSTRACT

The false black pepper *Embelia ribes* is a medicinal plant reported for numerous activities, and it is a well-documented drug of ethnopharmacology. The embelin and its derivatives are reported for their strong analgesic and anti-inflammatory properties and promotion of hepatocyte regeneration or preservation of the structural integrity of cell membranes. *In vivo*, the model of delayed-type hypersensitivity showed that embelin has immunostimulant activity. The increase in rat paw edema after challenging with sRBCs on day 15 after completion of dosing for 14 days indicates that there is stimulation of T lymphocytes due to the release of inflammatory mediator cytokinin, responsible for the rushing of immune cells to the site of injury. The results showed an increase in paw volume or hypersensitivity reaction to sRBCs at doses of 200 mg kg⁻¹ day⁻¹ and 100 mg kg⁻¹ day⁻¹ after challenge with sRBCs between 24 and 48 h, indicating the stimulating effect of the drug. Further, an analysis of hematological parameters exhibited a marked increase in red blood cells, white blood cells, hemoglobin and differential leucocyte count of cells, specifically a marked increase in the treatment group of animals as compared with the diseased group of animals.