

Anti-inflammatory and anticancer activity of *Heracleum rigens* Wall. ex DC.

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Abstract

Heracleum rigens is found only in few hilly mountains of Western Ghats of India. The genus *Heracleum* is reported to contain many phytoconstituents of medicinal value. Coumarins are one amongst them, which are known to possess anti-inflammatory and cytotoxic properties. The seed and root extracts of *H. rigens* were evaluated for its anti-inflammatory and cytotoxic activities. The anti-inflammatory activity of methanolic extracts of seed and root was evaluated by carrageenan induced paw edema model in Albino Wistar rats. The extracts were also tested for short term cytotoxic property against Dalton's lymphoma ascites cells by trypan blue method. The seed and root extracts showed a significant anti-inflammatory activity. The edema inhibition of seed extract at 200 mg kg⁻¹ and 400 mg kg⁻¹ were 26.8% and 38.2% respectively after 4h, while the root extract at 200 mg kg⁻¹ and 400 mg kg⁻¹ were 36% and 39.4% respectively after 4h. The seed and root extracts showed significantly higher levels of cytotoxicity. EC₅₀ values of seed and root extracts were 6.9 µg ml⁻¹ and 10.8 µg ml⁻¹ respectively. *Heracleum rigens* being rich in coumarins is found to be a good source for anti-inflammatory and anticancer agents.

Keywords: *Heracleum rigens*; anti-inflammatory, anticancer

Introduction

Plants have been used for the treatment of many medical disorders for centuries and have been the source of several clinically useful cytotoxic and anti-inflammatory agents. Majority of the plants belonging to the family Apiaceae are aromatic with hollow stems commonly known as umbellifers, used as traditional ethno medical remedies and more than 100 cultivated species are registered for several uses (Ana et al., 2010). *Heracleum rigens* is