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Pharmacological Evaluation of Ethanol Extracts From Alpine Calcarata Rhizome Anti Asthmatic, Antioxidant and Inflammatory Activities

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Objective & Aim: This study aims to evaluate the **pharmacological potential of ethanol extracts from the rhizome of Alpinia calcarata**, focusing on their **anti-carcinogenic, antioxidant, and anti-inflammatory activities**. The objective is to investigate the extract's efficacy in **inhibiting cancer cell growth, scavenging free radicals, and suppressing inflammatory responses,** thereby providing scientific validation for its **traditional medicinal use.**

Method: Ethanol extraction of *Alpinia calcarata* rhizome was performed using Soxhlet apparatus. The anti-carcinogenic activity was assessed through in vitro cytotoxicity assays (MTT assay) on selected human cancer cell lines. Antioxidant activity was evaluated using DPPH and ABTS radical scavenging assays. Anti-inflammatory potential was determined through protein denaturation inhibition and membrane stabilization assays. The results were statistically analyzed to determine the significance of the bioactivities.

Keywords: *Alpinia calcarata*, ethanol extract, anti-carcinogenic, antioxidant, anti-inflammatory, phytochemicals, medicinal plants, rhizome, cytotoxicity, DPPH assay

Biography1: Mr. Bora Shankar Rao is pursuing his **M.Pharmacy** in the **Department of Pharmacology** at *Sri Venkateswara College of Pharmacy*. His research focuses on Pharmacological Evaluation of Ethanol Extracts From Alpine Calcarata Rhizome Anti Asthmatic, Antioxidant and Inflammatory Activities. Derivatives for Their Antipsychotic Properties, as reflected in his study on the *Pharmacological Evaluation of Ethanol Extracts from Alpinia calcarata Rhizome*.

Biography2: Dr. A.V.S. Kasheera Bhavani, Associate Professor of Pharmaceutics at Sri Venkateswara College of Pharmacy, has over six years of experience in teaching, research, and student mentorship. Her expertise includes drug delivery systems, formulation development, and pharmaceutical technology, with a strong commitment to academic excellence and research-driven learning.

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