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Dipteracanthus patulus (Jacq) nees: Phytochemical and biological profile

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The *Dipteracanthus patulus (Jacq) nees* (DP) is an undershrub belonging to the family acanthaceae. DP extracts were evaluated by reported in-vitro antioxidant methods; methanolic extract of DP leaves (MEDP) showed promising antioxidant activity (in-vitro). Bioautography on thin layer chromatography (TLC) using DPPH as a detection reagent for the identification of antioxidant compounds was also performed. MEDP extract was standardized by physicochemical properties, spectroscopy and chromatography studies. The marker compound of MEDP (β -carotene and β -sitosterol) was identified by HPTLC. Total phenolic content of MEDP was also analyzed by Folin-Ciocalteu (FC) colorimetric method and found to be 351.09 ± 1.89 μ g GAE per gram dry weight. MEDP was selected for further hepatoprotective activity evaluation against carbon tetrachloride (CCl₄) and paracetamol (PCM) induced liver damage in rat models. The hepatoprotective activity was assessed by serum biomarkers and antioxidants viz. malondialdehyde (MDA) formation, superoxide dismutase (SOD), glutathione peroxidase (GSPx) and catalase (CAT) in liver homogenates along with histoarchitecture studies of rat liver. The hepatoprotective activity of MEDP observed in the present research can be correlated to their potent antioxidant property. Furthermore, the effect of MEDP (500 mg/kg) in CCl₄ and PCM rat models with respect to serum pro-inflammatory cytokines (TNF- α and IL-6) and liver nitric oxide levels were determined. The elevated levels of TNF- α and IL-6 with toxicants were reduced to normal levels with MEDP treatment. In addition, MEDP (500 mg/kg b.w. p.o.) elicit anti-inflammatory activity in carrageenan induced hind paw edema and cotton pellet granuloma rat models.

Biography

Shrinivas Bumrela is currently working as the Head of Pharmaceutics Department, Sinhgad Institute of Pharmaceutical Sciences, Pune, India. He is a registered Indian Pharmacist having 14+ years of academic and research experience. He presented and published more than 35 research articles in national and international journals/conferences and received 07 best research poster awards. His research area of interest is phytopharmacology and guided 14 Post-graduate students for dissertation. His biography is included in Marquis Who's Who in the World 28th Edition, 2011. He serves as a reviewer of various journals to name a few *Revista Brasileira de Farmacognosia* and *Asian Journal of Complementary and Alternative medicine*.

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