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Phytochemical constituents and therapeutic prospects of Biophytum sensitivum

Biophytum sensitivum, commonly known as "little tree plant," is a small annual herb valued in traditional medicine systems such as Ayurveda, Siddha, and folk remedies for its wide therapeutic applications. Traditionally, it has been used for treating respiratory disorders, wounds, arthritis, diabetes, and inflammatory conditions, reflecting its ethnomedicinal importance. Phytochemical investigations have revealed a rich diversity of bioactive compounds including flavonoids, saponins, polysaccharides, alkaloids, tannins, and phenolics, many of which contribute to its pharmacological efficacy. Modern studies have demonstrated multiple therapeutic potentials of B. sensitivum, particularly its antioxidant, anti-inflammatory, anticancer, antimicrobial, antidiabetic, and wound-healing properties, often linked to the modulation of molecular pathways such as NF-κB and cytokine signaling. Advances in phytochemical characterization, molecular studies, and biotechnological approaches such as tissue culture offer new opportunities for its conservation and pharmaceutical exploitation. This review consolidates current knowledge on phytochemistry and therapeutic prospects of B. sensitivum, highlighting future research directions and its potential role as a valuable source for novel drug discovery.

Key words: Biophytum sensitivum, phytochemicals, ethnomedicine, pharmacological activities, therapeutic potential

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