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# A Review on Extraction, Isolation and Separation Technique Studies of Drumstick

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**Abstract:** *Drumstick (Moringa oleifera), commonly known as the "miracle tree," has garnered significant scientific interest due to its nutritional, medicinal, and therapeutic properties. This review provides a comprehensive overview of the various extraction, isolation, and separation techniques applied to study the bioactive compounds of drumstick, which include vitamins, minerals, antioxidants, and phenolic compounds. The techniques covered include traditional extraction methods like maceration, Soxhlet extraction, and hydrodistillation, alongside modern methods such as supercritical fluid extraction, microwave-assisted extraction, and ultrasound-assisted extraction. The effectiveness, advantages, and limitations of each technique are discussed in relation to yield, selectivity, and preservation of bioactive components. Additionally, this review evaluates advanced isolation and separation approaches like chromatography and electrophoresis, focusing on their roles in purifying specific bioactive molecules from Moringa oleifera. By analyzing recent studies and methodological advancements, this review aims to guide researchers in selecting the most suitable techniques for studying drumstick and its components, facilitating the development of nutraceutical, pharmaceutical, and functional food applications.*

**Keywords:** Moringa oleifera, extraction methods, antioxidants, flavonoids


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