

**ANTI-OBESITY AND ANTI-DIABETIC PROPERTIES OF
Citrus maxima LEAVES EXTRACT**

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ABSTRACT

ANTI-OBESITY AND ANTI-DIABETIC PROPERTIES OF *Citrus maxima* LEAVES EXTRACT

The foliage of the Rutaceae family plant, *Citrus maxima*, is commonly utilized in traditional medicine. The leaves of *Citrus maxima* have therapeutic characteristics and have been utilized in traditional medicine to address different conditions, including asthma, cough, epilepsy, and leprosy. Despite the prevalence of synthetic medications for treating obesity and diabetes, their exorbitant costs and detrimental side effects highlight the necessity of exploring natural alternatives. This research examined the possible anti-obesity and anti-diabetic effects of extracts from *Citrus maxima* leaves. The maceration procedure utilizing ethanol has produced 21.73% crude extracts. The α -amylase inhibitory assay was conducted utilizing the starch-iodine method to evaluate the anti-diabetic activity. The inhibitory efficacy of the extracts against α -amylase was assessed and represented by the half maximum inhibitory concentration (IC₅₀) value, in which the ethanol extracts exhibited the most significant inhibition at 500 μ g/mL, yielding an IC₅₀ of 108.76 μ g/mL. The ethanolic extracts were subsequently evaluated for anti-obesity efficacy via pancreatic lipase, demonstrating an IC₅₀ of 171.72 μ g/mL. The total phenolic content in the ethanolic extracts of *Citrus maxima* leaves was 20.20 mg GAE/g DW. The findings augment the existing research on natural products and indicate the potential of *Citrus maxima* leaf extracts as a therapeutic option for obesity and diabetes.