

Exploring the Pharmacological Properties of Mirabilis Jalapa: Phytochemical and Antimicrobial Insights

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Abstract: The antibacterial properties of the aqueous and ethanolic extract made from the leaves of the white-flowered plant *Mirabilis jalapa* L. were tested against *Salmonella typhi*, *Escherichia coli*, *Vibrio cholerae*, *Bacillus subtilis*, and *Staphylococcus aureus*. The examined microorganisms showed no inhibition from aqueous extracts. All of the ethanolic extracts, however, demonstrated strong antibacterial activity against the chosen pathogens. Tetracycline's activities, which were used as a standard (100%), were used to compute the growth inhibitions (%). Additionally, the methanolic extract of the white-flowered plant contains a small quantity of tannins, moderate amounts of alkaloids, carbohydrates, terpenes, and saponins, according to the qualitative phytochemical screening. Flavonoids and glycosides were not found in significant quantities. The methanolic extract's pH was determined to be neutral. The study unequivocally showed that *M. jalapa*'s white-flowered plant has high antibacterial properties and is effective against a variety of microbes.

Keywords: Antibacterial activities, phytochemical screening, and *Mirabilis jalapa*