

## Antibacterial and Biofilm Inhibitory activities of *Aegle marmelos* Methanol leaf extract

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### ABSTRACT

The *Aegle marmelos* commonly known as “Bael” belongs to family Rutaceae plays a role in traditional culture and medication from ancient periods. This plant lacks sufficient evidences regarding the values and components it has. Therefore, we framed out our studies to evaluate phytochemical analysis, antibacterial activity of methanol extract of *Aegle marmelos*. We also evaluated the potency of methanol leaf extracts to inhibit biofilm of selected microbial strains. In accordance to the results, the methanol leaf extracts of *Aegle marmelos* revealed the presence of several biologically active phytochemicals with the highest quantity of Carbohydrates, Phenols, Alkaloids, Flavanoids, Tannins, Saponins, Steroids, Amino acids. The antibacterial activity was found significant against *E.coli* with the zone of inhibition 24 mm. Following to *E.coli*, *Proteus vulgaris* and Methicilin resistant *Staphylococcus aureus* showed susceptibility nature towards methanol extract with zone of inhibitions 18 and 20mm respectively. On the other hand, the inhibition of biofilm was also found significant at all tested concentrations. The 50% and 90% inhibition of biofilm inhibition of *E. coli* was found significant at 2 X MIC (Minimum Inhibitory concentration). Based on our studies here we conclude that the methanol leaf extract, possessed inhibitory activity against selected human pathogenic organisms.

**Keywords:** *Aegle marmelos*, antibacterial activity, biofilm, Minimum Inhibitory Concentration

