

Annona Squamosa Leaves on the Activities of Antibacterial and Antidaibetic

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Abstract: *Annona squamosa*, commonly known as custard apple or sugar apple, is a small tropical tree that belongs to the Annonaceae family. It is well known not only for its sweet fruit but also for its medicinal properties. To investigate the antibacterial properties, the well diffusion method was employed using nutrient agar media. This method allows researchers to measure the zone of inhibition produced by the plant extract against specific bacterial strains. The test included both Gram-positive and Gram-negative bacteria. In this case, *Escherichia coli* (*E. coli*) was used as the representative of Gram-negative bacteria, and *Bacillus subtilis* (*B. subtilis*) was used for Gram-positive bacteria. The results help in understanding the effectiveness of the plant extract against different types of bacterial infections. Additionally, the antidiabetic potential of the plant was evaluated using the alpha-amylase inhibition assay. Alpha-amylase is an enzyme involved in breaking down carbohydrates into sugars, and inhibiting this enzyme can help regulate blood sugar levels. By assessing how well the plant extract inhibits this enzyme, researchers can gauge its potential role in managing diabetes. Further, phytochemical analysis was conducted to identify the various bioactive compounds present in the leaves. These natural compounds, such as alkaloids, flavonoids, tannins, and saponins, are believed to contribute to the medicinal properties of the plant..

Keywords: *Annona squamosa*, Antibacterial, Antidiabetic, Herbal plant

