ASSESSMENT OF BLOOD GLUCOSE LEVELS IN WISTAR RATS TREATED WITH *COCCINIA GRANDIS* AND DATA INTERPRETATION BASED ON NON-COMPARTMENT ANALYSIS AND RATE PROCESS

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ABSTRACT

The study aims to examine the blood glucose-lowering effects of fresh *Coccinia grandis* fruit and assess how drying affects its antidiabetic potential. Additionally, the study seeks to determine the optimal administration procedure to maximize its antidiabetic efficacy. An oral glucose tolerance test was performed in female Albino Wistar rats to study the effects of *C. grandis* in three forms: fresh fruit slurry, dry fruit powder, and overnight soaked dry powder, with metformin as standard. The fresh fruit slurry (S-1) of *C. grandis* demonstrates excellent antidiabetic properties, showing a mean blood glucose level of 116.25±38 and a percentage blood glucose reduction of about 30%. This is more effective compared to the processed form of *C. grandis* and the standard drug metformin, with a mean actual blood glucose level of 44.5±35.9. The study indicates that *C. grandis* fresh form possesses significant hypoglycemic effects, reducing glucose absorption by peripheral tissues and enhancing glucose uptake into cells.