

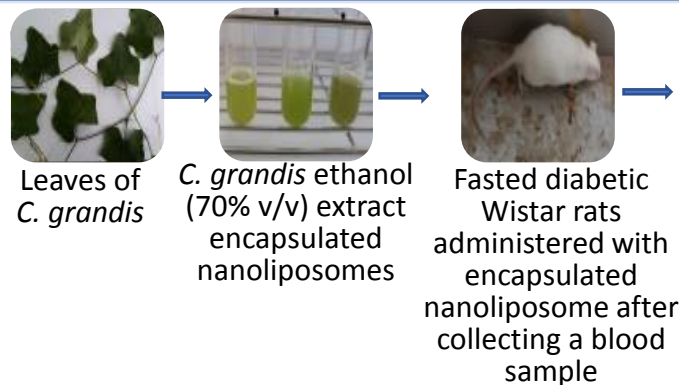
# Glucose-lowering activity of *Coccinia grandis* (L.) Voigt leaf extract encapsulated nanoliposomes in Wistar rats induced with diabetes mellitus

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## Introduction

Nanoencapsulation of *Coccinia grandis* (L.) Voigt (Family: Cucurbitaceae) extracts can be used improve the oral absorption, bioavailability and stability of bioactive phytoconstituents leading to enhanced efficacy as a glucose lowering herbal medicine.

## Methodology

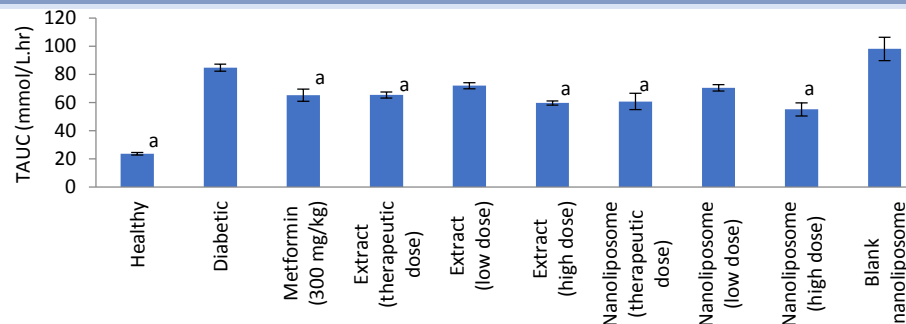


Blood were collected at hourly intervals for four hours after administration of glucose

Glucose-lowering activity was determined in terms of total area under the curve (TAUC) of oral glucose tolerance test (OGTT) curve

- Statistical analysis: One way analysis of variance followed by Tukey test using IBM SPSS 21
- Ethical approval: Ethical Review Committee, University of Ruhuna [2020.P.004(21.01.2020)]

## Results



<sup>a</sup>p<0.05 compared to diabetic control rats

- The percentage of glucose-lowering activity shown by encapsulated nanoliposomes,
  - Compared to diabetic control rats;
    - At low dose → 16.83%
    - At therapeutic dose → 28.2%
    - At high dose → 34.8%
  - Compared to crude extract;
    - At low dose → 0%
    - At therapeutic dose → 7%
    - At high dose → 7.5%

## Conclusions

*C. grandis* ethanol (70% v/v) leaf extract encapsulated nanoliposomes possess increased dose-dependent glucose-lowering activity in Wistar rats with diabetes mellitus.

## Acknowledgement

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