

## ABSTRACT

### **Antidiabetic Activity of Dry Extract of *Gracinia mangostana* Linn. and *Allium sativum* Linn. Combination in Alloxan Induced Diabetic Mice**

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Diabetes mellitus is a group of metabolic disorder characterized by hyperglycemia and alteration in the carbohydrate, fat and protein metabolism associated with absolute or relative deficiencies in insulin secretion or its action. The present studies were carried out to evaluate combination of dry extract from *Gracinia mangostana* and *Allium sativum* L. for antidiabetic activity in alloxan induced diabetic mice. Alloxan was administered as a 140mg/kg BW in buffer citrate to induce diabetes.

Combination of dry extract *Gracinia mangostana* and *Allium sativum* L. with ratio 1:1, 1:2 and 2:1 (23,3mg/20g BW mice), was administered orally to groups I, II, III for seven days. The standardized drug glibenclamide (0,013mg/20g BW mice) and CMC-Na also administered orally to mice as positive and negative control group respectively.

After repeated daily oral administrations of the extract (23,3mg/20g BW mice) for seven days, the extract significantly reduce blood glucose level in diabetic mice from days 5 compared to negative control group. The dry extract *Gracinia mangostana* and *Allium sativum* L.

According to blood glucose level profile in mice alloxan induced, the mixture of mangosteen (*Garcinia mangostana*) pericarp dry extract and garlic (*Allium sativum*) with ratio 2:1 (23,3 mg/kg BW mice) had the most effective activity to reduce blood glucose level in diabetic mice.

The results indicate that dry extract of *Gracinia mangostana* and *Allium sativum* L. could be a good natural source developing as an antidiabetic drug that can effectively maintain blood glucose levels to near normal value.

Keywords: *Gracinia mangostana*, *Allium sativum* L., antidiabetic activity, dry extract