

**STUDIES ON THE ISOLATION AND HYPOGLYCEMIC
EFFECT OF THREE ORALLY ACTIVE COMPOUNDS
KAKARA Ib, KAKARA IIIa AND KAKARA Him
FROM BITTER GOURDS (*Momordica charantia*)**

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Three principles called Kakara Ib, Kakara IIIa1 and Kakara IIIb1, possessing hypoglycemic activity have been isolated from the benzene extract of bitter gourds by silicic acid column chromatography and gel filtration. They are not steroids and therefore different from charantin reported by earlier [workers. Their activity was tried both in severely diabetic (SD) rabbits and in alloxan recovered (AR) rabbits with nearly normal or slightly elevated fasting blood glucose (FBG) levels but impaired glucose tolerance. In AR rabbits given orally either Kakara Ib (300 mg/kg) or Kakara IIIa1 (100 mg/kg) there was significant improvement in GTT pattern for a long time even after the withdrawal of the drug (2 weeks for Kakara Ib) without changing the FBG levels or increasing the glucose induced insulin release in glucose tolerance test (GTT). Thus Kakara Ib and Kakara IIIa1 improve glucose utilization by extra pancreatic mechanism and their effect was comparable to tolbutamide (300 mg/kg). On the other hand Kakara IIIb1 brought down FBG levels and increased the glucose induced insulin release in AR rabbits indicating that its action is through pancreas. A proper combination of the 3 principles is likely to have more favourable effect because of both pancreatic and extra pancreatic effects.