

## Anti-Obesity Effect of Physagulin-F isolated from Physalis Angulatafruits in lean Rats Fed a High Fat Diet

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**Background:** The search for new alternative and effective treatment methods were ongoing for obesity which is worldwide epidemic that reduces life expectancy. The present study aimed at investigating anti-obesity potential of physagulin-F isolated from Physalis angulata fruits.

**Methods:** The rats were randomly divided into six groups i.e., (1) Normal Diet (2) Normal Diet with 50 mg/kgBW of physagulin-F (ND+50 mg/kgBW); (3) Normal Diet with 100 mg/kgBW of physagulin-F (ND+100 mg/kgBW); (4) High Fat Diet (HFD); (5) High Fat Diet and 50 mg/kgBW of physagulin-F (HFD+50 mg/kgBW); (6) High Fat Diet and 100 mg/kgBW of physagulin-F (HFD+100 mg/kgBW). Through analyses of changes in body weight, visceral fat weight and blood biochemicals like total cholesterol, triglycerides, HDL-C, LDL-C, insulin, adiponectin, leptin and fecal fat content anti-obesity potential was evaluated.

**Results:** Rats receiving physagulin-F together with HFD showed significant ( $p < 0.05$ ) reduction in body weight gain compared to rats receiving HFD only. At the end of study, the body weight gain of physagulin-F treated rats was not significantly ( $p > 0.05$ ) different with those of normal diet rats. Plasma lipid profiles, insulin, leptin, and adiponectin like obesity biomarkers levels also showed significant improvement ( $p < 0.05$ ). Administration of physagulin-F caused significant ( $p < 0.05$ ) increase in fecal fat excretion, which validates the hypothesis of lipase inhibition, similar to standard drug of Orlistat.

**Conclusion:** This study concludes that the physagulin-F isolated from *P. angulata* fruits showed anti-obesity properties by inhibition of intestinal lipid absorption and also by modulation of adipocytes markers.

### Biography:

Dr. Estari Mamidala completed his under graduation and post-graduation from Kakatiya University. He did Ph.D in Zoology Department, Kakatiya University, India. He awarded DBT rapid grant young investigator award. After the completing of his Ph.D he was selected as Fast Track Young Principal Investigator from DST, New Delhi. Now he is doing post-doctoral research. He published more than 15 research publications in reputed journals.