

**THE
ANTIHYPERGLYCAEMIC
AND ANTI OBESITY
EFFECTS OF SELECTED
COMPOUNDS FROM
GARCINIA MALACCENSIS
ON 3T3-L1 ADIPOCYTES**

MOHAMED ZAFFAR ALI MOHAMED AMIROUDINE
MUHAMMAD TAHER BAKHTIAR



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THE ANTIHYPERGLYCAEMIC AND ANTI OBESITY EFFECTS OF SELECTED COMPOUNDS FROM GARCINIA MALACCENSIS ON 3T3-L1 ADIPOCYTES

The increase incidence in diabetes-and obesity-related diseases in developed and developing countries has driven serious efforts towards the discovery of adipogenic differentiation-inhibitory compounds in natural products. Mangostins and triterpenoids from *Garcinia* have been reported to contain a wide range of bioactivities. However, its antidiabetic and antiobesity activity has not been previously addressed. With regard to the fact, this research is designed to study the antihyperglycaemic and antiobesity effects of selected phytochemicals isolated from *Garcinia malaccensis* namely beta-mangostin and cycloartane triterpenoid. The compounds were tested for their antihyperglycaemic and antiobesity effects in 3T3-L1 adipocytes. expression of GLUT4 and leptin. Interestingly, mature 3T3-L1 cells treated with cycloartane triterpenoid was shown to enhance PPAR γ and GLUT4 gene expression and decreased leptin expression. As a conclusion, these line of evidences indicated that β -mangostin and cycloartane triterpenoid derived from *Garcinia malaccensis* may become an interesting candidate for the prevention of metabolic disorders such as diabetes and obesity.

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