

**P-184****Effect of Hypoletin ON 3T3-L1 Adipocytes *In Vitro***

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*Tetracera scandens* Linn. (locally known as mempelas kasar) is used in folk remedies by various indigenous people to treat rheumatism, lowering hypertension, lowering blood pressure, inflammatory diseases, hepatitis, internal pains, urinary disorders, dysentery, child birth, sore throat, gout and diabetes. In this study, the effects of hypoletin isolated from the leaves of *T. scandens* on the adipocyte differentiation and glucose regulation in 3T3-L1 adipocytes *in vitro* with regard to know its role in the prevention of diabetes. The structure of hypoletin was elucidated based on spectroscopic methods including nuclear magnetic resonance (NMR-1D and 2D), UV, IR and mass spectrometry. Treatment of hypoletin in a dose-dependent manner was examined on induction of lipid accumulation by using Oil Red O staining and glucose regulation in 3T3-L1 adipocytes *in vitro*. After 8 days, morphological changes and high lipid accumulation activity were observed in cells treated with 10 µg/mL of hypoletin concentration ( $P < 0.01$ ). In addition, the intracellular fat accumulation increased by up to 79.7% relative to MDI-treated control cells at dose 10 µg/mL. Furthermore, insulin-induced 2-deoxy-D-[<sup>3</sup>H] glucose uptake was significantly increased ( $P < 0.001$ ) in hypoletin treated cells as compared to control (DMSO cells). Since increase of lipid accumulation and stimulation of glucose uptake into adipocytes are known to regulate the diabetes pathophysiology, results suggest that hypoletin could be useful for the management and prevention of type 2 diabetes due to its adipocytes stimulation and glucose uptake activity.

**Keywords:** *Tetracera scandens* Linn., hypoletin, 3T3-L1 adipocytes, *in vitro*.

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