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Anti-adipogenic effects of extracts of *Ficus deltodiea* var. *deltoidea* and var. *angustifolia* on 3T3-L1 adipocytes

金钱榕提取物抑制3T3-L1 脂肪细胞抗脂肪沉积研究

Key words: Adipogenesis, *Ficus deltoidea*, Flavonoids, Natural products, Obesity

关键词： 脂肪细胞；金钱榕；黄酮类化合物；天然产物；肥胖

- Obesity has become a major concern among people of all ages in both developed and developing nations
- Multiple interventions are required for successful treatment of obesity, such as regular exercise, proper diet and food energy intake, and behavioural modification, as well as pharmacotherapy that involves the administration of slimming pills.
- Slimming pills such as Orlistat, a lipase inhibitor, prevent the absorption of fats by the intestines, which resulted in various undesirable side effects
- Hence, alternatives such as the application of natural products should be sought for anti-obesity.
- This study was conducted to assess the anti-adipogenic properties of water and methanol extracts derived from leaves of two varieties of *F. deltoidea*, namely var. *deltoidea* and var. *angustifolia*.



- Methanol and water extracts of leaves of the *F. deltoidea* varieties were analyzed to determine their total flavonoid content (TFC) and total phenolic content (TPC), respectively.
- The study was initiated by determining the maximum non-toxic dose (MNTD) of the methanol and water extracts for 3T3-L1 preadipocytes.
- Possible anti-adipogenic effects were then examined by treating 2-d post confluent 3T3-L1 preadipocytes with either methanol extract or water extract at MNTD and half MNTD (½MNTD), after which the preadipocytces were induced to form mature adipocytes.
- Studies revealed that the methanol extracts of both varieties and the water extracts of var. *angustifolia* at either MNTD or ½MNTD significantly inhibited the maturation of preadipocytes.
- The inhibition of the formation of mature adipocytes indicated that leaf extracts of *F. deltoidea* could have potential anti-obesity effects.