

# Current Issues in PHARMACY

Qamar Uddin Ahmad



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# Current Issues in Pharmacy

Editor

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**CHAPTER 14**

***IN VITRO* ACTIVITIES OF MALAYSIAN ANTIDIABETIC PLANT  
EXTRACTS ON ADIPOCYTES CELL**

***Muhammad Taher<sup>1</sup>; Mohamed Zaffar Ali Mohamed Amiroudine<sup>1</sup>; Deny Susanti<sup>2</sup>***

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**Introduction**

Diabetes mellitus is widely known as a metabolic disorder and it is becoming a major public health concern in most developing countries. The majority of type 2 patients are sufficiently insulin-resistant, which is defined as defective insulin signaling and a decreased insulin efficiency to induce glucose transport from the blood into key target cells such as muscle and fat cells (adipocyte) (Khan et al., 2003). For these patients, more insulin is not necessarily the ideal treatment strategy. A multitude of herbs, spices, and other plant materials have been described for the treatment of diabetes mellitus around the world. To date, the demand for natural products is high and thus, this has increased attention to alternative medicines.

The 3T3-L1 adipocyte cell line model is selected for this study because it plays an important role in lipid storage and glucose homeostasis (Frost and Lane, 1985). According to Amala (2006), the cells *in vitro* can be manipulated advantageously in many ways, unlike with