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Antidiabetic Potential of Pseuduvaria monticola Bark Extract on the Pancreatic Cells, NIT-1 and Type 2 Diabetic Rat Model

Authors : Hairin Taha, Aditya Arya, M. A. Hapipah, A. M. Mustafa

Abstract : Plants have been an important source of medicine since ancient times. Pseuduvaria monticola is a rare montane forest species from the Annonaceae family. Traditionally, the plant was used to cure symptoms of fever, inflammation, stomach-ache and also to reduce the elevated levels of blood glucose. Scientifically, we have evaluated the antidiabetic potential of the Pseuduvaria monticola bark methanolic extract on certain in vitro cell based assays, followed by in vivo study. Results from in vitro models displayed PMm upregulated glucose uptake and insulin secretion in mouse pancreatic β-cells. In vivo study demonstrated the PMm down-regulated hyperglycaemia, oxidative stress and elevated levels of pro-inflammatory cytokines in type 2 diabetic rat models. Altogether, the study revealed that Pseuduvaria monticola might be used as a potential candidate for the management of type 2 diabetes and its related complications.

Keywords : type 2 diabetes, Pseuduvaria monticola, insulin secretion, glucose uptake
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