Introduction

Diabetes Mellitus (DM) is a chronic and metabolic disorder categorized through Insulin deficiency. Globally, diabetes affects more than 425 million subjects and hypoglycemia is a common complication leads to insulin treatment and persistence, high blood glucose levels can lead to diabetic neuropathy, nephropathy, retinopathy, and additional complications.

Andrographolide (AND) is an extremely bitter C20 labdane diterpenoid (C20H20O3), first isolated from Andrographis paniculata (Burm. F.) Wall. Ex Nees (Family: Acanthaceae). It appears as crystalline bicyclic diterpenoid colorless lactone with bitter taste. AND and its derivates have been proven as anti-diabetic (DM). This review aims to sketch the activity of AND and its analogs/derivatives against the components of DM.

Material and Method

Search data obtained from PubMed, PMC (PubMed Central), Scopus, and Google search engine.

Result

Yu et al. (2003) thoroughly studied the antidiabetic activity of natural AND on streptozotocin (STZ)-induced diabetic rat model at an effective dose of 1.5mg/kg.


Andrographolide-lipoic acid conjugate (AL-1, 30) was found to possess significant antidiabetic potential in alloxan-induced diabetic mice (model type-I diabetes); the andrographolide analogue lowered blood glucose, increased insulin, and prevented loss of beta-cells and their dysfunction, which stimulated GLUT4 membrane translocation in soleus muscles.

Reference

