

ANTIDIABETIC EVALUATION OF MEDICINAL PLANT OF CUCURBITACEAE FAMILY

Abstract

The present research thoroughly examines the antidiabetic activities of the ethyl acetate fractions of *Solena heterophylla* and *Cyclanthera pedata* and diabetes induced wound healing activity of potent bioactive fraction. The study shows that both EASH and EACP have considerable antioxidant and enzyme inhibitory activities in *in-vitro* manner. Metabolite profiling qualitative evaluation with LC-Q-ToF-MS and HPTLC suggested the presence of cucurbitacin B along with several other bioactive phytocomponents. Metabolite profiling revealed the presence of several bioactive chemicals, such as triterpenoids, flavonoids, and glycosides. Notably, significant amounts of Cucurbitacin B were detected, which is renowned for its ability to reduce glucose levels.

EACP has better benefits in reducing blood glucose levels in diabetic rats. Empirical investigations have substantiated the minimal harmfulness and powerful therapeutic properties of EACP, which furthermore stimulated the safeguarding of beta-cells and heightened the antioxidant activity of tissues. In addition, the use of EACP resulted in a substantial enhancement of skin regeneration and wound healing in diabetic rats. This indicates that EACP has the potential to be used as a therapeutic agent for the treatment of diabetes and its related problems. It can be concluded that EACP has better activity in diabetic induced wound healing and promising agent for reducing diabetes. Further analysis to investigate the mechanism of action for wound healing study along with its antimicrobial potential can be studied to develop value added formulation for the benefit of human rights.