

PROTECTIVE EFFECT OF IPOMOEA BATATAS L LEAVES EXTRACT ON HISTOLOGY OF PANCREATIC LANGERHANS ISLET AND BETA CELL INSULIN EXPRESSION OF RATS INDUCED BY STREPTOZOTOCIN

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Abstract	<p>Sweet potato (<i>Ipomoea batatas</i> L) leaf is one of well known vegetables among Indonesian people. It is also often used as traditional medicine for diabetes mellitus. This research aimed to investigate the protective effect of <i>I. batatas</i> L leaves extract on the pancreas of IDDM animal model. Twenty five male Sprague-Dawley rats were divided into 3 treatment groups, and 2 control groups. Streptozotocin (STZ) was injected at multiple low doses (40 mg/kg BW) intraperitoneally for 5 consecutive days. <i>I. batatas</i> L leaves extract (doses 0.25, 0.8, and 2.5 g/ kg BW) were administered for 14 days after the first STZ injection. Fasting blood glucose was analyzed after complete STZ induction (day 6), and after 14 days treatment. At the end of the study, rats were terminated, and pancreas were removed for histological examination and immunohistochemical procedure using anti-insulin antibody. Diabetic rats treated with 2.5 g/kg BW <i>I. batatas</i> L leaves extract showed lowest fasting blood glucose among treatment groups, and had approximately 50% normal Langerhans islets with functional beta cells. These results suggest that <i>I. batatas</i> L leaves extract has anti diabetic activity through its protection effect on the pancreas.</p>
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