Diabetogenic gene expression analysis of butanol fraction of *Stevia rebaudiana* (bertoni) leaves in diabetic albino mice

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The effect of butanol fraction of ethanol extract of *S. rebaudiana* on streptozotocin-induced diabetic mice was evaluated for the diabetes laden gene expression in diabetic conditions. In streptozotocin induced diabetic mice, two weeks consecutive treatment of butanol fraction (200 mg/kg) was used to evaluate fasting blood glucose, oral glucose tolerance test (OGTT), serum lipid profile, tissues glycogen content, glucose-6-phosphatase and hexokinase enzyme levels in liver and insulin estimation. Subsequently, responsible phytoconstituents for respective activity were identified by HPLC.

OGTT determination at 60 min with respect to 30 min level and serum lipid profile exhibited significant reduction (p<0.005) by 38%, 58%, 30% and 30% in TC, LDL, VLDL and TG level respectively with about 75% improvement in HDL in SREEBF treated diabetic mice. Moreover, significant changes in gene expression of Glut-4 in muscle and adipose tissue, AR in kidney, PPAR-α, PPAR-γ and TNF-α in adipose tissues were observed in the experimental animals. SREEBF (200 mg/kg) exhibited significant OGTT and improved serum lipid profile with considerable gene expression of Glut-4, AR, PPAR-α, γ and TNF-α in experimental mice. Study concludes that butanol fraction of ethanol extract of *S. rebaudiana* did not invoke insulinotropic activity but it has demonstrated antihyperglycemic action. Butanol fraction of ethanol extract of *S. rebaudiana* can facilitated glucose entry presumably through PPAR-α, γ and Glut-4 receptor into glucose deprived cells, playing vital role in maintaining glucose homeostasis.

Biography

Anand Chaurasia has completed his Ph.D. in Pharmaceutical Sciences, from Dr. H. S. Gour University, Sagar (M.P). Currently, he is serving as a Head, Department of Pharmacology at Sagar Institute of Pharmaceutical Sciences (SIPS). He has published 10 research papers in international journals and presented research papers in international and national conferences and symposia.

Optimization, development and characterisation of phospholipid complexes of *Lawsonia inermis* Linn. extract and its active constituent, lawsone

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The objective of the present study is to prepare and characterize phospholipid complexes of *Lawsonia inermis* Linn. hydroalcoholic extract and its active constituent, lawsone to improve their aqueous solubility and dissolution profile. Complexes of *L. inermis* and lawsone were prepared with soya lecithin by solvent evaporation method. Characterization of complexes was performed by scanning electron microscopy (SEM), fourier-transform infra red spectroscopy (FT-IR) analysis, x-ray powder diffractometry (XRPD), differential scanning calorimetry (DSC) and proton nuclear magnetic resonance (¹H-NMR) spectroscopy. The complexation of both *Lawsonia inermis* Linn. hydroalcoholic extract and pure lawsone with soya lecithin resulted in marked improvement in solubility and increased drug dissolution in comparison to parent drug, lawsone.

Biography

Anju Dhiman has completed her Ph.D. from Maharshi Dayanand University, Rohtak and presently serving there as an assistant Professor since 2006. Recently, she had presented a paper in oral session in an International Conference on Environment, Chemistry and Biology, organised by APCBEEES 2012 in Hong Kong, China dated 29th, 30th December 2012 and her paper has been awarded as excellent paper in the session. She has published more than 21 papers in reputed journals and serving as an editorial board member of repute.