Sam Goo Lee

239bio Inc., South Korea

Regeneration of destroyed pancreatic beta-cells resulting from streptozotocin-induced t1dm rats by using D&D (diabetes & dietary) materials

This study was carried out by Non-Clinical Evaluation Centre of Biomedical Research Institute, Chonbuk National University Hospital, South Korea to investigate the preventive efficacy of *Gryllus Bimaculatus* extracts "D&D" in Streptozotocin-induced T1DM rats. Among nine weeks male STZ-induced (65mg/kg) diabetic Sprague-Dawley rats, STZ-induced diabetic rats were randomly divided equally into six groups: Control, high-dose D&D and untreated diabetic rats, D&D (1.63, 3.25 and 6.5g/kg) and treated through oral gavage for 4 weeks. Diabetic related biomarkers were investigated using biochemical and immune histo chemical analysis. Treatment with D&D markedly improved the blood glucose level which was analyzed by Intraperitoneal Glucose Tolerance Test (IP GTT) and Insulin Tolerance Test (ITT). At the end of the experimental period, expression levels of phospho-mammalian target of rapamycin(mTOR), B-cell lymphoma 2(Bcl-2), Bcl-2 associated X protein(Bax) and phospho-serine and threonine kinase(p-Akt Ser473) were measured in pancreas by immune blotting. The D&D treatment led to significant increase in p-Akt(Ser473), p-mTOR and Bcl-2 expression; decrease in Bax expression; and enhanced the production of intracellular insulin in pancreas. In addition, D&D treated diabetic rats were compensated for body weight loss and alleviated hyperglycemia. These results suggest that the supplementation of D&D improves diabetes by inhibiting oxidative stress and ameliorating STZ-induced pancreatic damage through AKT/mTOR mechanism. Accordingly, the results strongly support that the D&D is beneficial in the treatment of T_1DM by regenerating beta-cells against pancreatic dysfunction.

Biography

Sam Goo Lee is the CEO of 239bio Inc., which is located at Southern part of JeonBuk Province, South Korea. He has successfully accomplished the research related for "Regeneration of Pancreatic Beta-Cells Destroyed" using 'D&D' in T1DM. Dr. Lee showed this revolutionary efficacy on Diabetes from 14 groups of 180 T_1DM rats induced by Streptozotocin. Those scientific revolutionary regeneration of beta cells destroyed was conducted by AAALAC at ChonBuk National University in Republic of Korea and proven scientifically every biomarkers such as C-peptide, Insulin secretion, Bax, Bcl-2, Cleaved caspase-3, HbA1c, no side effects in Liver and Kidney included, FBG, PP2, ITT and GTT etc. Lee's researches are not limited to non-clinical trials, but made a much better achievements in human trials. Even T1DM patients showed remarkable recoveries from the worst cases of DM and became normalized of their C-Peptide and Insulin levels after 1 year of D&D trials.