Pengaruh Ekstrak Kedelai Terhadap Kadar MDA, GSH, Insulin, Konsentrasi Telomerase, Ekspresi Telomerase Revers Transcriptase (TERT) dan Jumlah sel Pankreas pada Tikus Diabetes Mellitus yang diinduksi Aloksan = The Effect of Soybean Extract to Levels of MDA, GSH, Insulin, Telomerase Concentration, Telomerase Revers Transcriptase (TERT) Expression and the number of pancreatic cells in the alloxan induced diabetes mellitus rats

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Abstrak

Latar belakang: Penelitian mengenai manfaat kedelai dalam penyembuhan penyakit diabetes mellitus DM sudah banyak dilakukan, namun belum diketahui pengaruh ekstrak kedelai terhadap peran protein TERT sel - pankreas. Penelitian ini bertujuan untuk mengukur kemampuan ekstrak kedelai dalam meningkatkan ekspresi TERT sel - pankreas pada tikus diabetes melitus.
Metode Penelitian: Eksperimental dengan Randomized block design. Enam puluh tikus putih jantan galur Sprague-Dawley dikelompokkan secara acak menjadi 6 kelompok: 1 tikus normal, 2 tikus DM diinduksi aloksan , 3 tikus DM glibenklamid, 4 tikus DM ekstrak kedelai 1 mg/kgBB/hari, 5 tikus DM ekstrak kedelai 5 mg/kgBB/hari, 6 tikus DM ekstrak kedelai 25 mg/kgBB/hari. Analisis statistik dilakukan dengan menggunakan SPSS 20. Variabel yang diukur yaitu glukosa darah puasa, ekspresi TERT dan jumlah sel - pankreas.
Hasil: glukosa darah puasa pada perlakuan dengan ekstrak kedelai menurun secara bermakna p < 0,05 dibandingkan dengan tikus diabetes mellitus. Ekspresi TERT pada DM 25 mg/kgBB/hari lebih tinggi secara bermakna p < 0,05 dibanding tikus diabetes, jumlah sel ? pankreas pada tikus perlakuan ekstrak kedelai lebih tinggi secara bermakna p < 0,05 dibanding tikus diabetes.
Kesimpulan: Ekstrak kedelai 1, 5 dan 25 mg/kgBB/hari dapat meningkatkan ekspresi TERT sel b pankreas pada tikus diabetes mellitus yang diinduksi aloksan.
<hr /><i>Background: Studies on the benefit of soybean as a treatment for diabetes mellitus DM have been largely performed however, the effect of soybean extracts on the role of TERT protein in pancreatic cells has not been known. The aimed of this study is to measure the capacity of soybean extracts in increasing the TERT expression of pancreatic cells in rats with diabetes mellitus.
Methods: It was an experimental study with randomized block design. Sixty white male Sprague Dawley rats were randomly categorized into 6 groups 1 normal rats 2 rats with DM induced by alloxan 3 rats with DM glibenclamide 4 rats with DM 1 mg kgBW day soybean extracts 5 rats with DM 5 mg kgBW day soybean extracts 6 rats with DM 25 mg kgBW day soybean extracts. Statistical analysis was performed using SPSS software program version 20.0. The measured variables included fasting blood glucose level, TERT expressions and the number of pancreatic cells.
Results: The fasting blood glucose level in rats treated with soybean extracts was reduced significantly p 0.05 compared to rats in diabetic control group. There was a significantly higher TERT expression in rats with DM 25 mg kgBW day soybean extracts p 0.05 compared to rats in diabetic control group moreover, the number of pancreatic cells was also significantly higher in rats treated with soybean extracts p 0.05 than the

diabetic rats.
Conclusion: Soybean extracts of 1, 5 and 25 mg kgBW day can increase the TERT expression of pancreatic cells in rats with diabetes mellitus induced by alloxan.</i>