

INTISARI

Penelitian ini bertujuan untuk mengetahui kandungan bubuk *Sargassum hystrix* dan pengaruh pemberian bubuk tersebut terhadap kadar glukosa (preprandial, postprandial), profil lemak dan kondisi sel beta pankreas akibat induksi streptozotocin pada tikus wistar diabetes. Bubuk *Sargassum hystrix* (BSH) dibuat dengan pembレンダー dan pengayakan sampai diperoleh bubuk dengan ukuran 120 mesh. BSH dosis 450 mg/kg, 600 mg/kg dan 750 mg/kg diberikan secara oral setiap hari selama 15 hari pada tikus diabetes. Kadar glukosa, profil lemak, dan berat badan tikus diukur saat keadaan normal (*baseline*), hari ke-0 (divonis diabetes), 5, 10, 15 dan dilakukan pengamatan histologi pankreas pada hari ke-15. BSH memiliki kandungan total fenol $45,60 \pm 28,44$ μg GAE/mg, aktivitas antioksidan 36,35%, kadar air 7,76%, abu 27,22%, protein 10,14%, lemak 1,33%, karbohidrat 53,55%. Analisis fitokimia menunjukkan bahwa BSH positif mengandung alkaloid, steroid, triterpenoid, tanin, dan saponin. BSH dosis 750 mg/kg secara signifikan mampu menurunkan kadar glukosa preprandial, posprandial dan tidak memiliki perbedaan yang signifikan dengan kontrol positif. Pemberian BSH tidak berpengaruh terhadap kadar kolesterol total, trigliserida, HDLc dan LDLc. Nekrosis ditemukan pada seluruh tikus yang diinduksi streptozotocin. Pemberian bubuk BSH dosis 750 mg/kg memiliki jumlah nekrosis yang lebih sedikit dibanding dosis pemberian yang lain.

Kata kunci : BSH, glukosa darah, nekrosis, profil lemak, *Sargassum hystrix*, streptozotocin,

ABSTRACT

This study aimed to determine the contents of *Sargassum hystrix* powder and the effect of its powder to the levels of glucose (preprandial, postprandial), lipid profile and the conditions of pancreatic beta cells of streptozotocin induced diabetic wistar rats. *Sargassum hystrix* powder (BSH) was made by grinding and sieving to obtain a 120 mesh sized powder. BSH at 450 mg/kg, 600 mg/kg and 750 mg/kg doses were orally given every day for 15 days to the diabetic rats. Glucose, lipid profile, and weight of rats were measured when the normal state (baseline), day 0 (convicted diabetes), 5, 10 and day 15. The histology of pancreas were observed on the 15th day. BSH contained 45,60±28,44 µg GAE/mg of total phenol, 7,76% water, 27,22% ash, 10,14% protein, 1,33% fat and 53,55% carbohydrate. The phytochemical analysis showed that BSH positively contained alkaloids, steroids, triterpenoids, tannins and saponin. It also exhibited 36,35% antioxidant activity. BSH at 750 mg/kg dose was significantly able to reduce the level of preprandial glucose, posprandial glucose and did not have significant differences with the positive control. The BSH has no effect on the level of total cholesterol, triglycerides, HDL_C and LDL_C. Necrosis were found in all of streptozotocin induced rats. The BSH at 750 mg/kg dose decreased the total of necrosis more than the other dose.

Keywords: BSH, blood glucose, necrosis, lipid profile, *Sargassum hystrix*, streptozotocin