EFEK EKSTRAK METANOL MAKROALGA MERAH (*Eucheuma cottonii*), GAMBIR LAUT (*Clerodendrum inerme*), DAN TAURIN TERHADAP PROFIL PROTEIN PLASMA DARAH MENCIT JANTAN (*Mus musculus* L.) YANG DIINDUKSI SENYAWA KARSINOGEN BENZO(α)PIREN

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Abstrak

Zat karsinogen merupakan pencemar berbahaya yang tercampur oleh udara, makanan, dan minuman. Salah satu prokarsinogen yaitu benzo(α)piren yang memiliki sifat mutagenik penyebab kanker. Ekstrak dari makroalga merah dan gambir laut serta taurin diduga memiliki aktivitas antikanker dan antioksidan. Tujuan penelitian ini adalah menguji efek pemberian ekstrak metanol makroalga merah (*Eucheuma cottonii*) dan gambir laut (*Clerodendrum inerme*) serta taurin terhadap profil protein plasma darah mencit jantan (*Mus musculus* L.) yang diinduksi senyawa karsinogen benzo(α)piren. Penelitian ini menggunakan Rancangan Acak Lengkap. Sebanyak 25 mencit jantan dibagi menjadi 5 kelompok perlakuan yaitu : K1= (kontrol negatif), K2= kelompok yang diinduksi benzo(α)piren selama 10 hari, K3= benzo(α)piren selama 10 hari, diberi ekstrak makroalga merah (*Eucheuma cottonii*) dengan dosis 14,7 mg/ekor/hari selama 15 hari, K4= benzo(α)piren selama 10 hari, diberi ekstrak gambir laut (*Clerodendrum inerme*) dengan dosis 10,5 mg/ekor/hari selama 15 hari, K5= benzo(α)piren selama 10 hari, diberi taurin 15,6 mg/ekor/hari selama 15 hari. Data dianalisis dengan ANOVA pada taraf nyata 5%. Hasil penelitian menunjukkan visualisasi profil protein plasma darah mencit belum memberikan hasil yang bermakna terhadap kelompok mencit yang diberian ekstrak daun gambir laut, makroalga merah dan taurin serta induksi karsinogenik benzo(α)piren dikarenakan respon fisiologis setiap individu berbeda-beda. Hal tersebut berkaitan dengan kemampuan depurasi makhluk hidup berbeda-beda, tergantung dari daya tahan tubuh, jenis, ukuran, berapa banyak polutan yang masuk, dan berapa lama makhluk hidup terpapar polutan.

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Kata kunci: *Mus musculus* L., *Eucheuma cottonii, Clerodendrum inerme*, taurin, benzo(α)piren, SDS-Page, plasma darah

Abstract

Carcinogens are dangerous radionuclide pollutants which are mixed with the air we breathe, food and drinks. One of the strongest carcinogens is benzo (α) pyrene which is a polycyclic aromatic hydrocarbon with cancer-causing mutagenic properties. Extracts from red macroalgae and sea gambir and taurine have anticancer and antioxidant activity. The purpose of this research is to examine the effect of methanol extract of red macroalgae (*Eucheuma cottonii*) and sea gambir (*Clerodendrum inerme*) and taurine on the profile of blood plasma protein in male mice (*Mus musculus* L.) due to benzo (α) pyrene carcinogenic induction. This research used *Completely Randomized Design*. Twenty five male mice were divided into 5 treatment groups, as follows: K1 = (control), K2 = induced by benzo (α) pyrene for 10 days, K3 = after induced by benzo (α) pyrene for 10 days. K1, K2 and K3 were given red macroalgae extract (*Eucheuma cottonii*) orally with a dose of 14,7 mg / mice during 15 days. K4 = induced by benzo (α) pyrene for 10 days than was given sea gambir extract (*Clerodendrum inerme*) orally with a dose of 10,5 mg / mice during 15 days. K5 = induced benzo (α) pyrene for 10 days than was given taurine orally with a dose 15,6 mg / mice during 15 days. The data in this research were analyzed by the ANOVA statistical method at a

significant level of 5%. The results showed that the visualization of blood plasma protein profiles of mice did not give significant results for the mice group which was given gambir laut leaf extract, red macroalgae and taurine and induction of benzo(α)pyrene because the physiological responses of each individual different. This is related to the ability of the depuration of living things to vary, depending on the body's resistance, type, size, how many pollutants enter, and how long living things are exposed to pollutants.

Keywords: *Mus musculus* L., *Eucheuma cottonii*, *Clerodendrum inerme*, taurine, benzo (α) pyrene, SDS Page, blood plasma