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ABSTRAK

Ridho, Wildan M.2016. *Efek Supernatan Yogurt LBA-ST sebagi Antikanker pada Sel HeLa Melalui Hambatan Ekspresi Laminin5-γ2 In-vitro***.**Tugas Akhir, Program Studi Farmasi, Fakultas Kedokteran Universitas Brawijaya Malang. Pembimbing : Wibi Riawan, S.Si., M.Biomed

Laminin5-γ2 merupakan protein marker dalam perkembangan sel kanker terutama pada penderita kanker serviks. Ekspresi Laminin5-γ2 yang berlebihan akan menyebabkan peningkatan proses invasi, migrasi dan adhesi sel kanker. Hal tersebut yang menyebabkan terjadinya proses metastasis sel-sel kanker serviks. Yoghurt adalah produk probiotik yang diperoleh dari fermentasi susu menggunakan bakteri asam laktat yaitu yaitu *Lactobacilus bulgaricus* dan *Streptococcus thermophilus* (LBA-ST). Supernatan yogurt LBA-ST mempunyai kandungan metabolit terbesar berupa SCFA (Short Chain Fatty Acids) meliputi propionat, butirat, dan asetat serta mempunyai efek antikanker via modulasi system imun dan antimutagenik. Tujuan penelitian ini untuk mengetahui dosis efektif (ED) Supernatan Yogurt LBA-ST (*Lactobacillus Bulgaricus* dan *Streptococcus Thermopilus*) yang dapat menurunkan aktivitas Laminin5-γ2 terhadap terapi sel HeLa (sel line kanker serviks). Pengujian aktivitas ekspresi Laminin5-γ2 pada sel HeLa yang telah dipapar dengan supernatan yogurt menggunakan metode imunositokimia. Data yang telah didapat dari penelitian diolah dengan uji statistik meliputi uji normalitas, uji homogenitas dan uji One-way ANOVA. Dari hasil penelitian didapatkan bahwa supernatan yogurt dapat menurunkan ekspresi dari Laminin5-γ2 dengan dosis efektif yang didapat sebesar 40% v/v ($p<0,05\pm0,005$).

Kata kunci : Kanker serviks, Sel HeLa, Supernatan Yogurt LBA-ST (*Lactobacillus Bulgaricus* dan *Streptococcus Thermopilus), SCFA(Short Chain Fatty Acid),* Laminin5-γ2, invasi adhesi dan migrasi.

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ABSTRACT

Ridho, Wildan M.2016. *The Effect of Supernatant Yogurt BLAST as Anticancer on HeLa cells Through Inhibition Expression Laminin5-γ2 In-vitro* .Final assignment, Pharmacy Program, Faculty of Medicine, Brawijaya University, Malang. Supervisor : Wibi Riawan, S.Si., M.Biomed

Laminin-5 γ2 is a protein marker in the development of cancer cells, especially in patients with cervical cancer. Laminin5-γ2 expression will cause an excessive increase in the process of invasion, migration and adhesion of cancer cells. This caused the metastasis process of cancer cells of the cervix. Yogurt is a probiotic products derived from milk fermented using lactic acid bacteria that are *Lactobacillus bulgaricus* and *Streptococcus thermophilus* (LBA-ST). Supernatant yogurt LBA-ST has the largest metabolite content in the form of SCFA (Short Chain Fatty Acids) include propionate, butyrate and acetate and have anticancer effects via modulation of the immune system and antimutagenic. The purpose of this study is to determine the effective dose (ED) Supernatan LBA-ST Yogurt (Lactobacillus and Streptococcus Bulgaricus Thermopilus) that can reduce the activity-γ2 Laminin5 to therapy HeLa cells (cervical cancer cell line). Testing activities Laminin5-γ2 expression in HeLa cells that had been exposed to the supernatant yogurt using immunocytochemistry. The data have been obtained from studies processed with statistical test including normality test, homogeneity test and One-way ANOVA test. The result showed that the supernatant yogurt can decrease the expression of Laminin5-γ2 effective dose obtained at 40% v / v ($p < 0.05 \pm 0.005$).

Keywords : Cervical cancer, HeLa cells, Supernatan Yogurt LBA-ST (Lactobacilus bulgaricus and Streptococcus thermophilus), SCFA (Short Chain Fatty Acids), Laminin5-γ2, invasion, adhesion and migration.