

ABSTRACT

Kurnia, Ema Widyawati. 2012. **The Effect of Vitamin E (a-tocopherol) against Damage, Viability, and Abnormalities of Primary Cultured Fetal Hamster Lung Cells Exposed to Ethanol**. Thesis. Biology Departement Faculty of Science and Technology of State Islamic University Maulana Malik Ibrahim of Malang. Biology Advisor : Kiptiyah, M.Si ; Religion Advisor : Amalia Fitri Andriani, M.Si.

Vitamin E (a-tocopherol) is an antioxidant that protects unsaturated Poly Faty Acids (PUFAs) and other cell membrane components from oxidation by free radicals. This vitamin is capable of reducing excess free radicals in the cells caused by various chemicals that enter the cell. One chemical is ethanol. This study aims to determine the effect of vitamin E (α -tocopherol) against damage, viability, and abnormalities of primary cultured fetal hamster lung cells exposed to ethanol.

This type of research is carried out experimental studies using Complete Randomized Design with 7 treatment of the negative control, positive control, vitamin E (α -tocopherol) concentration of 25 μ M, 50 μ M, 75 μ M, 100 μ M and 125 μ M are exposed to ethanol 10 mM for 24 hours and each was repeated three times. The sample in this study are fetal hamsters lung cell aged 2 days were cultured in DMEM medium 20% FBS and vitamin E were treated with different concentrations, then incubated in 5% CO₂ incubator temperature of 37°C for 5 days. Further samples were cultured again and exposed to 10 mM ethanol for 24 hours. At 24 hours after exposure to ethanol, the primary cell cultures of fetal hamster lung damage observed, viability, and cell abnormalities.

The research results show that vitamin E (α -tocopherol) affect the damage, viability and abnormalities of primary cultured fetal hamster lung cells exposed to ethanol. The research results show that concentrations of vitamin E (α -tocopherol) are effective against damage, viability, and abnormality was concentration of 125 μ M, 100 μ M and 25 μ M.

Key words : Vitamin E (a-tocopherol), Ethanol, Damage, Viability, Abnormalities, Lung Cell, Fetal Hamster