

ABSTRACT

Balkis, Samirah. 2012. **Influence of Vitamin E (*Alpha-Tocopherol*) Against Damage, Viability, and The Primary Nerve Abnormality of the Brain Cell Cultures Which Hamsters Being Exposed to Ethanol.** Thesis. Department of Biology, Faculty of Science and Technology the State Islamic University of Maulana Malik Ibrahim Malang. Advisor Biology: Kiptiyah, M. Si. Advisor Religion: Amalia Fitri Andriani, M. Si.

Keywords : Vitamin E (*Alpha-Tocopherol*), Ethanol, Hamster Brain nerve cells.

Ethanol is a chemical substance capable of producing a number of free radicals and triggered oxidative stress. This stress can cause cell damage, one of which is the brain nerve cell. Vitamin E is an antioxidant that can protect cells from free radical *in vitro*. This research aims to determine the influence of vitamin E (*alpha-tocopherol*) against damage, viability, and the primary nerve abnormality of the brain cell cultures which hamsters being exposed to ethanol.

This type of research is experimental research using Complete Randomized Design (RAL) with 7 treatment i.e. negative control (no exposure), a positive control (only being exposed to ethanol 10 mm), vitamin E with the concentrations of 25 μ M, 50 μ M, 75 μ M, 100 μ M and 125 μ M, being exposed to ethanol 10 mM for 24 hours and each repeated 3 times.

The sample used is the brain's nerve cells of the fetus mature hamster 2 days, that the culture in DMEM medium 20% FBS and given treatment vitamin E with different concentration, then incubated in a 5% CO₂, temperature 37°C for 8 days. Furthermore being exposed to ethanol 10 mM for 24 hours and observed damage, nerve cell viability and abnormality of the fetal brain of hamster.

The results showed that vitamin E effect lowers the damage, of cell abnormality and increases the viability cell primary culture of brain nerve being hamster ethanol. The results showed that the concentration of vitamin E that is effective against damage, viability and the abnormality is a concentration of 75 μ M, 25 μ M and 50 μ M.