

**THE EXPRESSION OF TUMOR NECROSIS FACTOR ALPHA (TNF  $\alpha$ )  
PROTEIN CAUSED OF VITAMIN E ( *$\alpha$  tocopherol*) ON THE STRESSED  
WHITE RAT (*Rattus norvegicus*)**

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**ABSTRACT**

This research was done to identify the expression of tumor necrosis factor alpha (TNF  $\alpha$ ) caused of vitamin E on the stressed male rat. There were three months aged of male *wistar* rats weighed two hundred grams in a healthy condition. The experimental animal was divided in three groups (P<sub>0</sub>, P<sub>1</sub>, and P<sub>2</sub>). Each group was given 3 mL drugs olution (control), 3 mL drug solution and electric stressor, and 3 mL vitamin E 400 IU emulsion and electric stressor. The treatment was done every morning within 14 days. The serum blood of each treatment was carried out at days fifteen. Analysis and identification of tumor necrosis factor alpha (TNF  $\alpha$ ) was qualitative observed by SDS-PAGE and Western Blot method. The protein analysis result by SDS-PAGE showed that the protein weight was 60, 53, 40, 26, 17, 13, and 10 kDa and the TNF  $\alpha$  protein identification result by imunobloting technique showed that the protein's weight was 53 and 26 kDa. The result vitamin E not influences to the expression of tumor necrosis factor alpha (TNF  $\alpha$ ). According to the author, it needs next research to the tumor necrosis factor alpha (TNF  $\alpha$ ) expression of white rat blood serums analyzed by another examination (immunohistochemistry).

Key words : tumor necrosis factor alpha (TNF  $\alpha$ ), vitamin E, stressed.