

**THE EFFECT OF L-ARGININE TO THE NUMBER  
OF SERTOLI CELLS AND LEYDIG CELLS  
MICE (*Mus musculus*) AFTER HIGH  
TEMPERATURE EXPOSED**

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**ABSTRACT**

The purpose of this study was to know the effect of L-arginine on the number of Sertoli cells and Leydig cells in mice (*Mus musculus*) after heat temperature exposed. The subjects of this study were 30 male mice, 8 weeks old. This research conducted by using Randomized Block Design (RAK) with experimental group 2x3 factorial design with 5 replications. Group I: without high-temperature exposure ( $P_0$ ) and a high-temperature exposure ( $P_1$ ). Group II: the dose of L-arginine 0mg ( $A_0$ ), 1,3mg ( $A_1$ ), dan 2,6mg ( $A_2$ ). The treatment consists of, control group (-)  $P_0A_0$  = treatment with aquabidest without high-temperature exposure.  $P_0A_1$  = treatment with a dose of 1,3mg L-arginine without high-temperature exposure.  $P_0A_2$  = treatment with a dose 2,6mg of L-arginine without high-temperature exposure. Control group (+)  $P_1A_0$  = treatment with aquabidest with high-temperature exposure.  $P_1A_1$  = treatment with a dose of 1,3mg L-arginine with high-temperature exposure.  $P_1A_2$  = treatment with a dose 2,6mg L-arginine with high-temperature exposure. Sertoli cells and Leydig cells were calculated and analyzed using Two Way ANOVA followed by Duncan Test. The results of this study were: (1) The treatment of heat temperature can reduce the number of Sertoli cells and Leydig cells in mice ( $p < 0,05$ ); (2) The treatment with L-arginine orally to mice can increase the number of Sertoli cells with a dose 1,3 mg and Leydig cells with a dose 2,6 mg ( $p < 0,05$ ); (3) There is no interaction between the heating temperature and the doses of L-arginine to the number of Sertoli cells and Leydig cells in mice ( $p > 0,05$ ).

*Keywords:* Leydig cell, L-arginine, *Mus musculus*, Sertoli cell.