

**THE EFFECT OF BLUE GREEN ALGAE (*Spirulina platensis*) EXTRACT
IN WHITE MALE RAT (*Rattus norvegicus*) TREATED WITH EXCESSIVE
PHYSICAL EXERCISE ON LEYDIG CELL NUMBER AND
SEMINIFEROUS TUBULES DIAMETER**

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ABSTRACT

The aim of this study was to investigate the effect of *Spirulina platensis* extract on the amount of Leydig cells, amount of Leydig cells undergoing necrotic, and diameter of seminiferous tubules of rats treated with excessive physical exercise. Excessive physical exercise was done through 60 minutes of swimming as stressor for 35 days. Twenty white male rats were randomly divided into five groups i.e C-, control or normal group, C+, a group was only receive swimming, T1, T2, and T3 was received 300, 600, and 1200 mg/kg BW of *Spirulina platensis* and swimming. *Spirulina platensis* extract was given orally once a day before swimming. ANOVA followed by Duncan analysis showed significant different among treatments on the amount of Leydig cells, the amount of necrotic Leydig cells, and seminiferous tubules diameter ($p < 0.05$). Excessive physical exercise influenced on male reproduction system through decreasing the amount of Leydig cells as testosterone producing organ. The conclusion of this study was dose of 1200 mg/kg BW of *Spirulina platensis* extract could maintain the amount of Leydig cells, protect the Leydig cells from becoming necrotic, and increase diameter of seminiferous tubules of white male rat.

Keywords: *Rattus norvegicus*, *Spirulina platensis*, excessive physical exercise, Leydig cells, seminiferous tubules diameter