

ABSTRACT

THE EFFECT OF 70% FRACTIONATED ETHANOL EXTRACT OF *Justicia gendarussa* Burm.f LEAF OF SUBCHRONIC TOXICITY STUDY ON THE ACTIVITY OF HYALURONIDASE SPERMATOZOA ENZYME OF RAT

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Justicia gendarussa Burm.f contains several flavonoids a of them is 'gendarusin A' that has the ability as antifertility with mechanism is to prevent spermatozoa penetration by inhibiting the activity of hyaluronidase spermatozoa enzyme. Hyaluronidase is one of the enzymes found on the outside of the spermatozoa that plays a role for the penetration of the cumulus oophorus by hydrolyzing hyaluronic acid in the process of fertilization. This study aim to find out the effect of 70% fractionated ethanol extract of *Justicia gendarussa* Burm.f leaf at dose of sub chronic toxicity study on the activity of rat's hyaluronidase spermatozoa enzyme. The metode used was microplate assay. Hyaluronidase activities can be detected from residues of hyaluronic acid that were not hydrolyzed by hyaluronidase and precipitated with 10% cetilpiridinium chloride that gave the absorbance in the λ 595 nm. Moreover, in this study, Bradford method is utilized in order to find the specific activity of hyaluronidase enzyme. Specific activity of hyaluronidase enzyme can be known from catalytic activity per miligram of protein. In the experiment process, it was showed that the average catalytic activity of the hyaluronidase spermatozoa enzyme on group of rats which were not given 70% ethanol extract of *Justicia gendarussa* Burm.f is as $0,778.10^{-6}$ unit/1 million spermatozoa, while on group of rats which were given 70% ethanol extract of *Justicia gendarussa* Burm.f with 40 mg , 200 mg, and 1000 mg doses respectively are as $0,746.10^{-6}$ unit /1 million spermatozoa, $0,696.10^{-6}$ unit/1 million spermatozoa, and $0,685.10^{-6}$ unit/1 million spermatozoa. To conclusion, based on the results of the study, there is a decrease of catalytic activity and the average of rat spermatozoa.

Keywords: *Justicia gendarussa* Burm.f, hyaluronidase enzyme, subchronic toxicity.