

ABSTRACT

THE STUDY OF INHIBITION EFFECT OF WATER FASA AND ETHANOL FRACTION OF GANDARUSA (*Justicia gendarussa* Burm.f.) TO HYALURONIDASE ACTIVITY

Dwirini Kartikasari

Flavonoid have ability to block hyaluronidase and proven to act as competitive inhibitor to the hyaluronidase activity. Apigenin is one of the flavonoid that can be hyaluronidase activity competitive inhibitor. Gendarusin-A as the apigenin derivate, is also expect to have hyaluronidase competitive obstruction. And the objective of this study was to find out the inhibition of water fasa and ethanol fraction of gandarusa leaves to hyaluronidase activity.

The first step of the study was identifying bovine testes hyaluronidase from Sigma with SDS-PAGE, and the result was showing that the bovine testes hyaluronidase from Sigma had many protein bands, and to eliminate the unwanted protein it was precipitated with ammonium sulfate and then desalted with dialyze membrane.

The second step was measuring both crude and desalted hyaluronidase activity with Morgan-Elson method, and the result showed that desalted hyaluronidase had a higher specific activity than the crude one.

The third step was the treatment of water fasa and ethanol fraction of gandarusa to the desalted hyaluronidase, and was being compared with apigenin and hesperidin. The result was showing a decline of hyaluronidase activity along with the increase of water fasa and ethanol fraction dose. And the result of double reciprocal kinetics analysis of enzyme rate data was showing that the impeded type was reversible competitive, indicating that gandarusa was enzymatically able to fulfill the term to be used as a contraceptive material.

Keywords : enzyme activity inhibition, bovine testes hyaluronidase, water fasa and ethanol fraction of gandarusa leaves