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PENGHAMBATAN PELEPASAN ENZIM β -HEXOAMINIDASE DARI SEL MAST OLEH ZEORIN, SENYAWA DARI *AEGLE MARMELLOS* CORREA

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ABSTRACT

Zeorin or 6 α ,22-Dihydroxyhopane is a compound isolated from *Aegle marmelos* Correa collected in Yogyakarta Indonesia. The molecular structure was confirmed in Universiti Putra Malaysia. This compound was obtained from petroleum ether extract of the leaves of *Aegle marmelos* Correa. In present study, we investigated the effects of zeorin on the β -hexoaminidase enzyme release from mast cell culture. The experiment was performed by using rat basophilic leukemia (RBL-2H3) cell line, a tumor analog of mast cells. DNP₂₄-BSA and thapsigargin were used as immunologic and non-immunologic inducers for β -hexoaminidase enzyme release from mast cells, respectively. The release of β -hexoaminidase enzyme was determined by using colorimetric methods with an enzyme substrate, *p*-nitrofenil-2-Acetamido-2-deoksi- β -D-gluko-piranosida, and a microplate reader at 405 nm. In this study, treatment of 20 ng/mL DNP₂₄-BSA and 0.5 μ M thapsigargin could stimulate the release of β -hexoaminidase enzyme from RBL-2H3 cells by 25.42 \pm 1.62 % and 33.16 \pm 3.72 %, respectively. Zeorin showed potent inhibitory effects on the β -hexoaminidase enzyme release, when the release induced by DNP₂₄-BSA. In contrast, zeorin show weak inhibitory effects, when the β -hexoaminidase enzyme release from RBL-2H3 cells induced by a Ca²⁺ stimulant, thapsigargin. The IC₅₀ values of zeorin's effects on DNP₂₄-BSA and thapsigargin experiments were 33,71 μ M and >100 μ M, respectively. Based on the results, the inhibitory effect of zeorin on the β -hexoaminidase enzyme release from RBL-2H3 cells involving mechanisms related to the interaction of IgE on the mast cell surface or intracellular signal transductions involved in mast cell degranulation.

Key words : *Aegle marmelos* Correa, zeorin, sel mast, β -hexoaminidase enzyme