ABSTRACT

ACETYLCHOLINESTERASE INHIBITORY ACTIVITY OF n-BUTANOL SUBFRACTIONS *Niphates olemda* IN VITRO

Marine sponge has been reported as the source of many metabolites with various pharmacological activity, including acetylcholinesterase inhibitory activity. Previous study reported that methanolic extract of *Niphates olemda* sponge had acetylcholinesterase inhibitory activity with IC_{50} value of 56.78 µg/mL. Then the methanolic extract of *N. olemda* was partitioned using n-hexane, ethyl acetate and n-butanol. The results showed that the n-butanol fraction had a strong activity and the inhibitory precentage of fraction was 96.92% at a concentration of 100 µg/mL (Suciati et al., 2018). The aim of this study is to investigate the acetylcholinesterase inhibitory activity of n-butanol subfractions of *N. olemda* as well as to investigate of the secondary metabolites in the n-butanol subfractions obtained. Subfractionation of the n-butanol fraction of *N. olemda* was performed by using Vacuum Liquid Chromatography (VLC). The result of the acetylcholinesterase inhibitor activity test showed that the n-butanol subfractions from *N. olemda* had a low inhibition against AChE enzyme. Subfraction with the highest inhibition was subfraction 11 of 30.3 ± 6.8%. The compound identification was conducted by Thin Layer Chromatography (TLC) with anisaldehid H_2SO_4 stain visualization. The result showed purple colour indicate the presence of terpenoid compound.

Keywords : Sponge, *Niphates olemda*, Alzheimer's disease, Acetylcholinesterase inhibitor