

ABSTRACT

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Study Program : Biomedicine

Title : “Marine Brown Algae: Investigating the Antibacterial Activity of Crude Extracts of *Sargassum* spp. from Pari Island, Indonesia against *Klebsiella oxytoca*”

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Marine brown algae are rich sources of bioactive compound from its secondary metabolites. Numerous novel compounds have isolated from marine brown algae, and many of these substances have been demonstrated to have promising biological activity such as antibacterial agent. Crude extracts of *Sargassum* spp. from Pari Island, Indonesia were evaluated for antibacterial activity against *K. oxytoca*. In this experiment, several parameters were incorporated to obtain the highest antibacterial activity such as sample drying methods and extraction methods i.e. standard maceration, prolonged and agitated maceration, boiling method, microwave-assisted method, blending method, sonication method, and alginic acid extraction. Macerated extracts obtained from various extraction methods did not produce antibacterial effect against *K. oxytoca*. However, there is a very little antibacterial activity (< 1 mm) on the alginic acid extract against *K. oxytoca*. Multiple factors could affect the inactivity of the crude extracts of marine brown algae *Sargassum* spp. Therefore, it is important to determine the suitable timing or season to collect the sample and the favorable extraction methods to support the experiment.

Keywords: Phaeophyceae, Macroalgae, Brown Algae, *Sargassum* spp., Antibacterial Activity, *Klebsiella oxytoca*.