# SCREENING OF BIOACTIVE COMPOUNDS IN SEA SLUGS (NUDIBRANCHIA) AGAINST MULTI-DRUG RESISTANT CLINICAL PATHOGENS

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**ABSTRACT**

Marine organisms are natural sources that provide novel antibacterial compounds; consequently, they have possible roles for drug development and can be considered for their potential drug activity. Sea slugs species were used as a test organism in the study to determine its antimicrobial activity against clinical pathogens. The study determined whether the sea slug ethanolic extracts are effective against the growth of multi drug resistant clinical pathogens. It also identified which of the sea slug species are most effective in inhibiting the growth of the clinical pathogens. The bioactive compounds of sea slugs were extracted using ethanolic extraction procedures. The substances were subjected to different strains of multi-drug resistant and non-resistant clinical pathogens. The antimicrobial activity of sea slugs was measured based on the inhibition zone through disk diffusion method. Among the 5 collected sea slugs, species B, C, and D, were able to inhibit the growth of most of the clinical pathogens. To determine the effect of the three extracts in multi-drug resistant and non-resistant clinical pathogens, serial dilution was performed. The results showed that there was a significant decrease in the growth of each multi-drug resistant and non-resistant clinical pathogens ($P<0.0001$). It also showed that there was no significant difference among the inhibitory effects of different sea slug extracts. The sea slugs were identified as *Nembrotha kubaryana*, *Tambja morosa*, and *Nembrotha chamberlaini*. The study implies that marine organisms are good sources of bioactive compounds that may provide remedial agents for the treatment of diseases.

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