

ABSTRACT

Extrinsic factors contribute 97% to accelerating aging by causing excessive Reactive Oxygen Species (ROS), so radical scavenging agents are a promising strategy to prevent premature aging. Marine sponges live under oxidative pressure and survive by maintaining oxidative balance by producing antioxidative compounds. This research explores the radical scavenging effect of marine sponge *Suberea* sp.

The crude extract was obtained through maceration using acetone. Fractionation was conducted by partitioning ethyl acetate/water and solid phase extraction (SPE) using six types of solvent. Bioassay-guided was used to obtain active compounds, and radical scavenging assay was used as a bioassay system. High Performance Liquid Chromatography (HPLC) was performed to collect the purified compound and the structure was determined by Liquid Chromatography-Mass Spectrometry (LCMS) and Fourier Transform Infrared (FTIR).

The crude extract obtained was 3.19%. The water fraction from partition and SPE had higher radical scavenging activity. At 500 μ g/mL concentration, the methanolic fraction exhibited the highest DPPH scavenging with 32.704 \pm 0.015% inhibition, while SF7 exhibited 66.792 \pm 0.031% ABTS inhibition. Based on LCMS and FTIR, the possible compound responsible for the radical scavenging activity was 2-(3',5'-dibromo-4'-hydroxyphenyl) acetamide and hydroxymoloka'iamine. In conclusion, *Suberea* sp. from Maratua Island is tentatively identified to contain 2-(3',5'-dibromo-4'-hydroxyphenyl) acetamide and hydroxymoloka'iamine that have radical scavenging activity.

Keywords: skin aging, reactive oxygen species, *Suberea* sp., radical scavenging