Evaluation of antioxidant and cytotoxicity activities of polyphenol extracted from brown seaweed *Sargassum tenerrimum* biomass

Original Article | Published: 17 January 2022
Volume 14, pages 2063–2069, (2024) Cite this article

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Abstract

The polyphenol compound is extracted from *Sargassum tenerrimum* with various bioactivities including antibacterial and antioxidant activity and MTT assay for cell cytotoxicity. The total phenolic content was 69.12 ± 0.24%. The *S. tenerrimum* polyphenol was found to phytochemical constituent's presence of flavonoids, saponins, tannins, phenolics, alkaloids and steroid. The antibacterial activity of polyphenol presented significant inhibition against ten human pathogen bacterial cultures such as *Proteus mirabilis*, *Klebsiella oxytoca*, *Escherichia coli*, *Bacillus cereus*, *Streptococcus pyogenes*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Vibrio cholerae*, *Salmonella typhi* and *Bacillus subtilis*. The in vitro antioxidant activity and MTT assay revealed that the polyphenol has anticancer activity against HeLa cells. The polyphenol compound was characterized through HPLC.