Phytochemical Analysis and In Vitro Cytotoxicity of Seaweed Sargassum sp. Against Colon HCT-116 and Lung-A549 Cancer Cells

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This research is aimed to develop marine resources which is focused on the phytochemical analysis and exploration of seaweed Sargassum sp. as a potential anti-colorectal and anti-lung cancer agent. Seaweed Sargassum sp. collected from Dwikora beach, Tanjung Pinang, Riau, Indonesia. Seaweeds Sargassum sp. were extracted in organic solvent of n-hexane, ethylacetate, chloroform, and ethanol, respectively. The concentrated extract of n-hexane, ethylacetate, chloroform, and ethanol were then analyzed by thin layer chromatography and mass spectrometry. Phytochemical test of the extracts were conducted to identify the secondary metabolites containing in the seaweed. Furthermore, cytotoxic activity of n-hexane, ethyl acetate, chloroform, and ethanol extracts of Sargassum sp. were evaluated against colon HCT-116 and lung-A549 cancer cells by MTT cell proliferation assay. Phytochemical analysis for the concentrated extracts of Sargassum sp. showed the positive result for metabolites of steroid, tannin, triterpenoid and glycoside. Concentrated extracts of Sargassum sp. exhibited cytotoxicity against colon HCT-116 and lung-A549 cells with IC50 ranging from 0.3 ppm to 37.9 ppm. Our results clearly demonstrate seaweed Sargassum sp. as a promising candidates for the new anti-colorectal and anti-lung cancer agents.