

Effectiveness of Active Compounds From Hydroid *Aglaophenia cupressina* Lamoureaux Against Toxicity of p53 Gene in HeLa Tumor Cells

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Abstract

Hydroids belong to Coelenterata phylum and are marine invertebrate living attaching to sponges, rich in chemical compounds such as: alkaloids, steroids, terpenoids, and histamine. The compounds produced by these organisms can be utilized as medicines raw materials, such as antimicrobials and anticancer. This study aims to investigate the working mechanism of active compounds from extract and n-hexane fraction of hydroid *A. cupressina* Lamoureux against toxicity and apoptosis of p53 genes expression in HeLa tumor cells. Isolation and characterization of compounds from hydroid used experimental method with the following steps: extraction, isolation, purification and structure elucidation. Apoptosis was induced by methyl thiazole tetrazolium assay method. Study findings indicated that the tested compounds from hydroid *Aglaophenia cupressina* Lamoureux had cytotoxic activities against HeLa tumor cells, with very active category as anticancer according to the value of HeLa tumor cell growth inhibition for 50% (IC₅₀) was 0.31726 µg/mL for extract and 0.32712 µg/mL for fraction.

Keywords: Bioactive compounds, Cytotoxic, HeLa tumor cells, Hydroid

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