ABSTRACT

**Antiviral Activity of Fractions of Marine Sponge S. flabelliformis Against Hepatitis C Virus and Identification of Metabolites in the Active Fraction**

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Currently, an estimated of 150 million people are infected with hepatitis C virus. Drugs commonly used for hepatitis C virus infections are combination of α-interferon pegylation and ribavirin, and drugs that belongs to direct acting antivirus group. The development and research of antiviral compounds are still ongoing. The purpose of the current study is to investigate the antiviral activity of fractions obtained from ethyl acetate extract Stylissa flabelliformis against hepatitis C virus. The assay was carried out by using Huh7it cell cultures exposed to JFH1 virus. The results of this test are expressed as % of inhibition. The identification of metabolites in the active fractions was carried out by using $^1$H NMR, TLC, and GC-MS methods. Nine fractions were yielded from flash chromatography and subjected to antiviral assay. The results showed that, at concentrations of 50 ppm, the 6th, 7th, and 8th fractions were having potential activity with % of inhibition of 68 ± 7 %, 99 ± 1 %, and 86 ± 5 %, respectively. The main components of the active fraction were identified as fatty acid compounds, namely tetradecanoic acid, hexadecanoic acid, heptadecanoic acid, octadecanoic acid, eicosanoic acid, and octadecenoic acid.

**Keywords:** Stylissa flabelliformis, Fraction, Antiviral Activity, Hepatitis C, Identification, Fatty Acids