

ABSTRACT

ACTIVITY OF ETHYL ACETATE EXTRACT OF *Cassia spectabilis* LEAVES TO HEME DETOXIFICATION INHIBITION PROCESS

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Cassia spectabilis is traditionally used as an antimalarial drug. In the previous study, it is known that *in vitro* methanol extract on *C. spectabilis* leaves had antimalarial activity with IC₅₀ value of 2,66 µg / ml, while IC₅₀ value of ethyl acetate fraction IC₅₀ was 1,88 µg/ml and IC₅₀ of chloroform fraction was 0,642 µg ml. Based on TLC results, it is known that alkaloids content in the extract was greater than the content of other classes of compounds and thus it was expected to have antimalarial activity (Ekasari, et al., 2012). This study aimed to determine the activity of ethyl acetate extract of *C. spectabilis* leaves in the process of inhibiting heme detoxification and to detect the class of compounds in the extract based on TLC. The method used for antimalarial activity test was of Basillico et al (1998) method that had been modified. The concentration of extract used is 4; 2; 1; 0,5; 0,25; and 0,1 mg/ml. The absorbance value was measured using an ELISA reader at a wavelength of 405nm. The inhibitory activity of heme detoxification was expressed in IC₅₀ using a probit analysis. The results of this study indicated that ethyl acetate extract of *C. spectabilis* had inhibitory activity against heme detoxification with IC₅₀ value of 0,333 mg/ml (KV = 3,604%) and based on the TLC analysis of ethyl acetate extract of *C.spectabilis leaves*, it was showed that alkaloids, flavonoids, and terpenoids were detected.

Keywords: *Cassia spectabilis*, antimalarial activity, heme detoxification inhibition, ELISA reader, phytochemistry screening