ABSTRACT

IDENTIFICATION OF ANTI-AMEBIC COMPOUNDS FROM *Cratoxylum Sumatranum* (Jack) Blume STEM BARK

Fendi Yoga Wardana

Amoebiasis is caused by *Entamoeba histolytica*, which is the species pathogenic on tissue of human colon. Amoebiasis is responsible for 100,000 deaths annually throughout the world. The treatment of amoebiasis with metronidazole has been reported to be less effective, because of the drug resistance effect by *E. histolytica*. Therefore, the research for new drugs with amoebicidal activity is important.

Preliminary research on extract of *Cratoxylum sumatranum* stem bark from Balikpapan Botanical Garden showed anti-amoebic activity. The research aims to isolate the active compound which has anti-amebic activity from dichloromethane extract of *C. sumatranum* (Jack) Blume stem bark with bioassay guided isolation. Their anti-amebic activity was determined by in vitro cell-based assay against *E. histolytica* HM-1:IMSS (clone 6) strain and enzymatic assay against NAD kinase.

The result obtained 2 compounds from cage xanthone groups, there are cochinchinoxanthone and cochinchinone D. The cochinchinoxanthone (isolate F4.H3) has anti-amebic activity with IC_{50} of 4.57 µg/mL (cell-based) and 12.17 µg/mL (enzymatic), CC_{50} of 48.83 µg/mL and SI value of 10.68. While the cochinchinone D (isolate F4.H4) has anti-amebic activity with an IC_{50} of 5.19 µg/mL (cell-based) and 12.60 µg/mL (enzymatic), CC_{50} of 67.69 µg/mL and SI value of 13.04. According to the activities, the compounds are potential to be developed as anti-amebic drugs.

Keywords: Amoebiasis, Entamoeba histolytica, Cratoxylum sumatranum stem bark, cage xanthone, anti-amebic activity.