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Project Title: Study of the chemical components of toxin derived from *Hirsutella thompsonii* (Fisher) in Thailand

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Abstract

Hirsutella thompsonii # 966 cultured in malt extract broth for 1 month without air flow was used to analyze chemical components by extraction with EtOAC. The components were separated with a Sephadex LH-20 column and analyzed on a Bruker DRX 400 NMR spectrometer. No new compounds appeared in the purification process, which showed only a group of ordinary components: peptide, glycerol derivative, ergosterol and diketopiperazines A and B, so, the extraction process was terminated. The crude broth (freeze dried sample) and the crude extract from broth (after evaporation) were used to investigate the cytotoxicity against insect and mammalian cell lines by dissolving in dimethyl sulfoxide (DMSO). Two insect cell lines, Sf9 (pupal ovarian tissue of *Spodoptera frugiperda* Smith = ECACC No. 89070101) and Clone C6/36 (larvae tissue of *Aedes albopictus* Skuse = ECACC No. 89051705) plus one mammalian cell line, clone BHK (21) clone 13 (Hamster Syrian kidney = ECACC No. 85011433) were used in this study. A bioassay revealed that the crude broth sample was weakly toxic to all cell lines in the tested range of 7.8-1,000 µg/ml while the crude extract was non-toxic to all cell lines tested in the range of 0.78-100 µg/ml.

Key word: *Hirsutella*, toxin, cytotoxicity, bioassay