

3936814 PYPG/M : MAJOR : PHARMACOGNOSY ; M.Sc. IN  
PHARMACY (PHARMACOGNOSY)

KEY WORDS : ANTIHERPES SIMPLEX / *MACLURA*  
*COCHINCHINENSIS* / MORIN / CYTOTOXIC  
ACTIVITY

SUDARAT DECHSREE : ISOLATION OF ACTIVE  
COMPONENTS AGAINST HERPES SIMPLEX VIRUS FROM  
*MACLURA COCHINCHINENSIS* (LOUR.) CORNER HEARTWOOD.  
THESIS ADVISORS : NUNTAVAN BUNYAPRAPHATSARA, Ph.D.,  
ANGKANA HERUNSALEE, Ph.D.  
103 p. ISBN 974-661-814-8

Studies on cytotoxic and anti-herpes simplex virus type II (HSV-II) activities were carried out on the heartwood of *Maclura cochinchinensis* (Lour.) Corner. The powdered heartwood was successively extracted with petroleum ether, chloroform, ethyl acetate and methanol. These extracts were tested for cytotoxicity against *Artemia salina* (brine shrimp). Chloroform, ethyl acetate and methanol extracts were active with  $LC_{50}$  112.2, 69.2 and 131.8 ppm, respectively. The ethyl acetate and methanol extracts exhibited anti-HSV-II (strain G) activities with  $EC_{50}$  38.5 and 50.8  $\mu\text{g/ml}$ , respectively. The chloroform extract was too toxic to culture cells, thus, anti-HSV-II activities, if any, could not be obtained. The petroleum ether extract was inactive in both tests.

The ethyl acetate extract, which appeared to be the most active fraction, was further separated using column chromatography and bioassay employing the brine shrimp and anti-herpes simplex tests. The active fractions obtained from the column were further separated using preparative thin layer chromatography (TLC) and LH-20 column to afford the active component. The structure elucidation by  $^1\text{H-NMR}$  and  $^{13}\text{C-NMR}$  indicated the active component was morin. Morin exhibited cytotoxic effect at  $EC_{50}$  85.1 ppm and anti-HSV-II (G) activity at  $EC_{50}$  53.5  $\mu\text{g/ml}$ .

Acetate derivative of morin was prepared and 44.2% yield was obtained. Morin pentaacetate exhibited cytotoxic effect to brine shrimp at  $LC_{50}$  171.4 ppm but failed to exhibit HSV-II (G) activity.