P-72

Xanthine Oxidase Inhibitory Activity of *Tetracera Indica*

Fauziah Abdullah[1,*], Nor Hadiani Ismail[3], Fadzureena Jamaludin[2] and Siti Nur Aisyah Mohd Hashim[2]

[1]Phytochemistry Programme, [2]Bioactivity Programme, Natural Products Division, Forest Research Institute Malaysia (FRIM) 52109 Kepong, Selangor; [3]Faculty of Applied Sciences, University Teknologi Mara, Shah Alam, 40450 Shah Alam, Selangor; E-mail: fauziahabdullah@frim.gov.my

Xanthine oxidase (XO) is a key enzyme that catalyzes the last step in the conversion of purines to uric acid, and plays a vital role in producing hyperuricemia and gout. Allopurinol, the medication prescribed for gout prevention, is a xanthine oxidase inhibitor. However, due to unwanted side effects of allopurinol, new alternatives with fewer side effects are desired. In folk remedies, leaves of *Tetracera indica* Merr. (Dilleniaceae) are effectively used in the treatment of diabetes and anti-inflammatory related diseases. Some studies have proven scientific evidence for the traditional use of leaves of *T. indica* in the management of diabetes in Malaysia. However, there is no scientific claim about its efficacy in the treatment of anti-inflammatory related diseases. Based on literature, *Tetracera* spesies are widely used for the treatment of anti-inflammatory related diseases. Therefore, the aim of this study is to investigate potential anti-inflammatory activity of *T. indica* via xanthine oxidase inhibitory assay. Our preliminary screening study revealed that the methanolic extract of the stem of *T. indica* showed xanthine oxidase inhibitory activity in a concentration-dependent manner. The dried stem of *T. indica* was extracted with methanol (MeOH), the MeOH solution was evaporated under pressure to give a MeOH extract (73.6g; IC_{50} 42.02 µg/ml). The MeOH extract was suspended in water (H_2O) and partitioned successively with hexane, (dichloromethane) DCM, and (ethyl acetate) EA to yield hexane (1.89 g; IC_{50} > 100 µg/ml), DCM (2.78 g; IC_{50} > 100 µg/ml), EA (3.80 g; IC_{50} 21.14 µg/ml) and aqueous (59.17 g; IC_{50} 35.36 µg/ml) fractions, respectively. EA fraction was selected to be further study due to its potential to inhibit xanthine oxidase enzyme with IC_{50} value of 21.14 µg/ml which in lower than IC_{50} value of MeOH extract, 42.02 µg/ml. Further separation and purification of EA fraction led to the isolation of two known compounds. Those compounds were identified by analysis of their spectroscopic data and comparisons with literature data to be betulinic acid and 5,7-dihydroxyl-8-methoxyflavone.