

Two Antiplasmodial Compounds from Lauraceae: *Actinodaphne macrophylla* and *Nectandra angustifolia*

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Abstract : Plants of Lauraceae family are known to contain many chemical compounds which have potential bioactivity such as alkaloids, flavonoids, lactones, terpenes, etc. *Actinodaphne macrophylla* and *Nectandra angustifolia* are two species from Lauraceae. A previous study on the crude alkaloidal extract from the bark of *Act. macrophylla* and n-hexane extract from the bark of *N. angustifolia* showed antiplasmodial activity against *Plasmodium falciparum*. The study was continued to find antiplasmodial active compounds from the two extracts. The materials were obtained from Bogor Botanical Garden, West Java, Indonesia. Crude alkaloidal extract of *Act. macrophylla* was prepared by maceration in dichloromethane after moistened with NH₄OH 25% and n-hexane extract of *N. angustifolia* was prepared by maceration in n-hexane. A major compound was isolated by column chromatography using silica gel and a mixture of CH₂Cl₂ and methanol as a gradient solvent system for the alkaloidal extract and mixture of n-hexane and ethyl acetate for n-hexane extract. Fine white needle crystals were obtained from the alkaloidal extract and rod crystals from n-hexane extract. Molecular structure of the compounds was determined by analysis of spectra of NMR, IR, MS and compared by references. In vitro bioactivity test of the compound was performed against *Plasmodium falciparum*. The results showed that the bark of *Act. macrophylla* contained an aporphine alkaloid, actinodaphnine, that had activity against *P. falciparum* with IC₅₀ value of 0.095 µg/mL and the bark of *N. angustifolia* contained a lignan compound, sesamine, with IC₅₀ of 0.122 µg/mL.

Keywords : actinodaphne macrophylla, alkaloid, antiplasmodial, lauraceae, lignan, nectandra angustifolia

Conference Title : ICPPNP 2015 : International Conference on Pharmacognosy, Phytochemistry and Natural Products

Conference Location : London, United Kingdom

Conference Dates : September 25-26, 2015