

Isolation of Cytotoxic Compound from *Tectona grandis* Stem to Be Used as Thai Medicinal Preparation for Cancer Treatment

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Abstract : A Thai medicinal preparation has been used for cancer treatment more than ten years ago in Khampramong Temple. *Tectona grandis* stem is one ingredient of this Thai medicinal remedy. The ethanolic extract of *Tectona grandis* stem showed the highest cytotoxic activities against human breast adenocarcinoma (MCF-7), but was less cytotoxic against large cell lung carcinoma (COR-L23) (IC₅₀ = 3.92 and 7.78 µg/ml, respectively). It was isolated by bioassay-guided isolation method. Tectoquinone, an anthraquinone compound was isolated from this plant. This compound showed high specific cytotoxicity against human breast adenocarcinoma (MCF-7), but was less cytotoxic against large cell lung carcinoma (COR-L23) (IC₅₀ = 16.15 and 47.56 µg/ml or 72.67 and 214.00 µM, respectively). However, it showed less cytotoxic activity than the crude extract. In conclusion, tectoquinone as a main compound, is not the best cytotoxic compound from *Tectona grandis*, so there are more active cytotoxic compounds in this extract which should be isolated in the future. Moreover, tectoquinone displayed specific cytotoxicity against only human breast adenocarcinoma (MCF-7) which is a good criterion for cancer treatment.

Keywords : *Tectona grandis*, SRB assay, cytotoxicity, tectoquinone

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