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

Authors : Onmanee Prajuabjinda, Pakakrong Thondeeying, Jipisute Chunthorng-Orn, Bhanuz Dechayont, Arunporn Itharat **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 7.78μ g/ml, respectively). It was isolated by bioassay-guided isolation method. Tectoquinone, a anthraquinone compound was isolated from this plant. This compound showed high specific cytotoxicity against human breast adenocarcinoma (MCF-7), but was less cytotoxic activity than the crude = 16.15 and 47.56μ g/ml or 72.67 and 214.00μ M, 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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