

Cytotoxicity of Flavonoid Compounds from *Smilax corbularia* Kunth Against Cholangiocarcinoma Cell Line

Authors : Pakakrong Thongdeeying, Srisopa Ruangnoo, Arunporn Itharat

Abstract : The rhizomes of *Smilax corbularia* Kunth have long been used as common ingredients in anticancer preparations. Thus, the objective of this study is to investigate cytotoxicity of *S. corbularia* and its ingredients against cholangiocarcinoma cell line (KKU-M156) by SRB assay. Ethanolic and water extracts of *S. corbularia* rhizomes were obtained using the procedures followed by Thai traditional doctors. Bioassay guided isolation was used to isolate cytotoxic compounds. The results revealed that the ethanolic extract of *S. corbularia* exhibited activity against KKU-M156 cell line with an IC₅₀ value of 84.53 ± 1.62 µg/ml, but the water extract showed no cytotoxic activity. Three flavonoid compounds [astilbin (1), engeletin (2), and quercetin (3)] were isolated from the ethanolic extract. Compound 3 exhibited the strongest activity against KKU-M156 cell line (IC₅₀ = 8.14 ± 1.15 µg/ml), but 1 and 2 showed no cytotoxic activity (IC₅₀ > 100 µg/ml). In conclusion, quercetin showed the highest efficacy against cholangiocarcinoma. These results support the traditional use of this plant by Thai traditional doctors for cancer treatment.

Keywords : cholangiocarcinoma, cytotoxicity, flavonoid, *Smilax corbularia*

Conference Title : ICBPS 2015 : International Conference on Biomedical and Pharmaceutical Sciences

Conference Location : Tokyo, Japan

Conference Dates : May 28-29, 2015