

Abstract

In this present year, the phytochemical study followed bioassay-guided isolation was proceeded. The information of phytochemicals, pharmacological activities and also toxicity are needed for product license application or patent application. Moreover, a substituted organ of Sang-Yu was also important because the roots of plants were quite difficult to produce in large volume for an industry in the future. The fractionations of Sang-Yu extract was evaluated their antioxidant activities and cell proliferation assay, and apoptosis assay. Chronic toxicity was also studied in this present year. The methodology of all studies was followed FDA guideline for product license application in the future.

Each sample of Sang-Yu was dried, reduces their size, pulverized and then extracted with continuous extraction by Soxhlet's apparatus using *n*-hexane, ethyl acetate, and 95 % ethanol as solvents or reflux with water. The extract was concentrated by a rotary evaporator or spray dryer. Fifteen samples of the crude extract from the different parts of the plant were obtained and test for their activities. Fifteen samples of the crude extract from the different parts of the plant were screened with oxidation assays and samples with good activities were used then tested with cell proliferation assay and apoptosis assay in LX-2 cell line. Finally, we found that the extracts No. 9 green Sang-Yu (bark) and No. 15 red Sang-Yu (bark) increased early and late apoptosis in LX-2 cells. Therefore, the extracts No. 9 and No. 15 will be isolated by chromatographic techniques. The extracts No. 9 and No. 15 will be tested for choosing the fraction with the highest apoptotic activity, which will be used in animal study. In addition, the interesting fraction of Sang-Yu to be further studied is the extract 11.3 Sang-Yu Green (leaf) water fraction due to the induction of early apoptosis and late apoptosis, especially the early apoptosis and effective anti-oxidation effect.

From the previous study, the bark of green Sang-Yu found the potent activity. The isolation is continuing study with bioassay-guided isolation. The extract of its roots and leaves was determined IR spectrum and TLC chromatograms to used as one of a tool for chemical stability study. As results, the chromatograms and spectral data showed that each part of both Sang-Yu revealed different chemical profiles with the quantity of the chemical compositions.

The chronic toxicity was also evaluated. The oral administration of three series dose of *Pseuduvaria rugosa* (Blume) Merr (150 mg/kg and 50 mg/kg; 750 mg/kg and 250 mg/kg; and 3750 mg/kg and 1250 mg/kg) for 180 days had no toxicity in the long-term.

