Isolation of an anti-hepatomacarcinogenic activecompound from *Indigofera aspalathoides* extracts

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Therapeutic agents derived from nature plays a prominent role in the treatment of cancer in humans. *Indigofera aspalathoides* (family: Fabaceae), a shrub found in Northern Sri Lanka and South India, is used in the traditional medical systems of India and Sri Lanka to treat many ailments including cancer. A flavonoid with potential anticancer properties has been reported from stem of plant growing in India. Although hepatocellular carcinoma (HCC) is the 3rd leading cause of cancer deaths worldwide, ability of the flavonoid compound to inhibit proliferation of HCC cells wasn't investigated. The plant growing in Sri Lanka hasn't been evaluated for anticancer activity and active compounds may vary in the Indian and Sri Lankan plants due to variations of climate and soil conditions. Therefore, the present study was conducted with aims of (a) evaluating *in vitro* anticancer activity of the organic extracts of *I. aspalathoides* against the human hepatoma (HepG2) cells and (b) isolating and characterizing active anticancer compound(s). Powdered, freeze-dried aerial plant material of *I. aspalathoides* was subjected to sequential extraction using hexane, chloroform, ethyl acetate and methanol. These extracts were then screened for cytotoxicity by Sulforhodamine B (SRB) assay. Chloroform extract demonstrated cytotoxic activity (IC_{50} 58µg/m L) to HepG2 cells. Subsequently solvent-solvent partitioning was done on the active fraction using a series of solvents. The partitioned fractions were then subjected to SRB assay. The chloroform fraction resulting from solvent-solvent partition showed cytotoxic activity (IC_{50}28.8µg/m L). The active fraction was subjected to size exclusion chromatography followed by silica gel column chromatography. The active compound was isolated in pure form and showed cytotoxicity at IC_{50}= 14.4 µg/m L. The purity of the compound was confirmed by TLC (single prominent spot of Rf = 0.85, silica gel, hexane; EtOAc, 3:2). Characterization of the active compound via spectroscopic methods is in progress.

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