

2nd International Conference and Exhibition on

MARINE DRUGS AND NATURAL PRODUCTS

June 15-17, 2017 London, UK

Activity guided characterization of active compounds of *Aristolochia tagala* with potential role as anticancer drugs

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Traditional healthcare system is widely practiced in rural areas of India. *Aristolochia tagala* is one among the plants used by several traditional practitioners in different herbal preparations for treatment of cancer and other pathophysiological conditions. Our previous studies have reported the chemo-preventive potential of crude aqueous-methanol extract of *A. tagala* against DEN-induced Hepatocellular Carcinoma (HCC) in BALB/c mice. The identification of biologically active compounds can give an insight into the mechanism of action of *A. tagala* as a potential anticancer drug. In this study, the crude methanol extract of *A. tagala* was fractionated by column chromatography. The fractions were further validated for their antioxidant property by their ability to scavenge free radicals such as superoxide, nitric oxide and ABTS radical cation. The preliminary cytotoxic effect of the plant as well as the fractions against cancerous cells was carried in human cervical carcinoma HeLa cells by colorimetric MTT metabolic activity assay. The fraction with λ max 323, 290, 258 nm showed the highest scavenging activity. The fraction also showed a more efficient cytotoxic effect against HeLa cells. The 50% inhibition of proliferation by the fractionated compounds was at lower dose compared to crude extract. Flow cytometric analysis of cell cycle and apoptotic events induced by fractions and crude extract is being carried out. Purification and characterization of above fraction with anticancer compounds are underway.

Biography

Khetbadei L H Hadem has completed her PhD in Biochemistry from North Eastern Hill University, India. She is currently working as a Post-doctoral Fellow under the UGC-PDF scheme in the Division of Animal Health, Indian Council of Agricultural Research for North Eastern Hill Region, Meghalaya, India. She has attended workshops and has presented papers in seminars and conferences. Her technical expertise includes maintenance and ethical handling of laboratory animals and cell cultures, enzymology, molecular biology, microscopy, standard chromatography procedures, and working with modern advanced scientific instruments. Her current work involves chromatographic profiling and characterization of plant active compounds and assessing the anticancer properties in human cancer cell lines through gene expression and protein expression analysis.

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