

Anti-proliferative activities of selected Chinese medicinal herbs against human cancer cell lines

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Abstract

The main objective of this study was to investigate the anti-proliferative properties of selected traditional Chinese medicinal herbs with a view to discover potential candidates for the isolation of anti-cancer compounds and also for designing new anti-cancer herbal formulations. The plants selected for this study have ethno pharmacological importance and currently used in Chinese medicine. The Methylthiazolyldiphenyltetrazolium bromide (MTT) assay was conducted to determine the anti-proliferative properties of the aqueous and ethanol extracts of the selected herbs against one control cell line and 5 human carcinoma cell lines. The key herbs found in this study that are expected to have excellent future potential are: *Ligustrum lucidum*, *Paeonia suffruticosa*, *Sarcandra glabra*, *Scutellaria baicalensis*, and *Sanguisorba officinalis*. The study also indicated that the ethanol extracts of the selected herbs were generally more effective than the aqueous extracts. The findings of this study provide strong evidence that some of the medicinal plants examined are potential candidates for the isolation of anti-cancer compounds and also for designing new anti-cancer herbal formulations.

Keywords: Medicinal herbs; Anti-proliferative activity; Lung carcinoma; Breast carcinoma; Colon carcinoma; Hepatocytes carcinoma; Leukemia carcinoma;

Introduction

Cancer is one of the leading causes of death in the modern world (Jemal et al., 2007). Conventionally, surgical procedures, chemotherapy and radiotherapy are the major treatments for cancer. However, these procedures have the drawbacks which include traumatic side effects, expensive diagnosis and treatment (Cho., 2010). Medicinal herbs have therefore received a significant interest in anti-cancer therapy as they do not have these drawbacks.