International Journal of Cell & Molecular Biology (IJCMB)
Accepted on 8 October, 2010, Vol. 1(2), pp 108-116, 1st November, 2010
Available online at http://www.ijcmb.yolasite.com/testimonials.php

Research article

PHARMACOGNOSTICAL STUDY OF THE MEDICINAL PLANT *CALENDULA OFFICINALIS* L. (FAMILY COMPOSITAE)

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The present study was to identify bioactive chemical compounds from flower of *Calendula officinalis*, their antimicrobial activity and setting up the standards specification. *C. officinalis* L. (Family Compositae) commonly known as Marigold or Calendula is an annual plant upto 1.5 feets tall. The percentage of moisture content was 18.79% per gram and total ash content was 98.74 mg per gram of air-dried flowers indicating the presence of organic compounds. For isolation and identification of compounds Thin Layer Chromatography (TLC) and Fourier Transform Infrared Spectroscopy (FTIR) ware carried out. In 9:1 of chloroform: methanol solvent system R_f value under UV light and Iodine vapours for methanolic extract 0.93 and 0.93; ethanolic extract 0.94 and 0.85, 0.94; chloroform extract 0.90 and 0.91, 0.94; acetone extract 0 and 0.96 and for water extract 0.95and 0 respectively. In 1:1 solvent system R_f value under UV light and Iodine vapours for methanolic extract 0.95 and 0; ethanolic extract 0.94 and 0.86; chloroform extract 0.89 and 0.88, 0.93; acetone extract 0 and 0.93 and for water extract 0 respectively. In FTIR the spectrum was obtained from methanolic extract showed that flower extract of *C. officinalis* composed of organic compounds mostly containing functional groups OH, CH, C=O, C=C and COOH. In antimicrobial activity Ethanolic extract gave activity against *E. coli, Vibrio cholera* and *Candida albicans.* Methanolic extract gave only against *Candida albicans.* Chloroform gave antimicrobial activity against all microbes while acetone gave only against *E. coli.*

Key words: *Calendula officinalis,* Pharmacognostical study, antimicrobial activity, Isolation, identification.

Introduction

The relationship between men and plant is as old as the history of mankind. In plant kingdom, thousands of plant yield medicines that have many uses in human life. The medicinal importance of these plants is due to presence of chemical substances in them. Some of the important bioactive compounds are Alkaloids, Resins, Glycosides, Triterpene alcohols, Flavonoids, Crotenoides, Phenolic acids, mucilage etc. Medicinal plants are integral component of research development in the pharmaceutical industry. According to World Health Organization (WHO) 80% of the population especially of developing countries relies on traditional medicine systems which are predominantly made from medicinal plants. The