

Abstract

A number of therapeutic medicines derived from plants exhibit medicinal properties, notably the anti-inflammatory, antioxidant, and cytotoxic roles. The current study aimed to estimate and identify the chemical composition of *Mentha pulegium* L. leaves volatile oil and to evaluate its cytotoxic, anti-inflammatory and free radical scavenging characters.

The volatile oil (VO) of *M. pulegium* leaves was separated using the Microwave-ultrasonic method and the chemical composition was characterized using Gas Chromatography-Mass Spectroscopy (GC-MS) analysis. While the anti-inflammatory activity was determined using a COX inhibitor screening assay with an Elisa kit assay. The antioxidant activity was estimated by utilizing DPPH free radical scavenging assay. Whilst its cytotoxic activity was evaluated against HeLa cervical adenocarcinoma cells using MTS assay.