

Extraction, Isolation and Identification of Luteolin Flavonoid from *Vitex pseudonegundo* leaves

Hussein Hamed Heal¹ and Zainab Tuama Al-Dallee² and Enas J. Khadim³

^{1,2}Pharmacognosy Department, College of Pharmacy, University of Basra, Basra, Iraq.

³Pharmacognosy Department, College of Pharmacy, University of Baghdad, Baghdad, Iraq.

¹E-mail: lhuss123123@gmail.com

²E-mail: zainab.toma@uobasrah.edu.iq

³E-mail: ienas.fahd@copharm.uobaghdad.edu.iq

Abstract. Objective: Using HPLC as a quantitative estimate technique, the optimal extraction solvent for luteolin from *Vitex pseudo-negundo* was identified. Methods: leaves *V. pseudonegundo* were gathered, washed, and dried. employeing methanol and ethanol as the extraction solvents (both with varied strengths), as well as the extraction techniques of maceration, reflux, and Soxhlet. The amount of luteolin in each sample extract was measured using a preparative HPLC technique Results: Methanol was the best solvent, and the best extraction method was the reflex extraction method, based on HPLC results Conclusion: According to the results of HPLC, reflex was the superior method for extracting luteolin from *V. pseudonegundo*, and the optimum solvent was methanol. thus, advising using this approach in industry and future study.

Keywords. Luteolin, *Vitex pseudonegundo*, Extraction techniques, HPLC.

1. Introduction

The Vitex plant is a plant that lives more than two years that consider genus of to Lamiaceae family [1]. Vitex pseudonegundo roughly 3 meters tall and is a shrub with woody bases [2]. Its native habitat frequently consists of moist areas beside streams, and this plant is especially common in numerous wetland regions of Asia [3]. Over 250 species of Vitex (Lamiaceae) may be found, the majority of which are frequently used medicinally [4]. According to recent research that have described their phytochemistry, the plant species in this genus generate iridoids, terpenoids, flavonoids, and steroids. [5]. Due to its hormone-like effects, this plant is particularly used to treat hyperprolactinemia and premenstrual difficulties [6]. It also has significant therapeutic benefits. Traditional medicine it is used as diuresis enhancer, fungal killer, Anxiolytics ,sexual desire improvement, analgesic, emmenagogues, suppresses muscle spasms, sleep inducer, reduction in the production of prolactin [1]. Around 4000 naturally occurring polyphenolic chemicals collectively referred to as flavonoids are exclusively of plant origin [7]. Flavonoids are divided into numerous subgroups based on the differences in functional groups and the skeleton's 15-carbon structure's relative positions (aglycons), comprising chalcones, anthocyanidin, flavone, flavanone, flavonol, isoflavonoid, and flavone. Several of these flavonoids have demonstrated anticancer action in cell and animal models of cancer [8].

