



Received on 03 November 2022; received in revised form, 11 January 2023; accepted, 01 May 2023; published 01 July 2023

HPLC FINGERPRINTING OF ETHNOMEDICINAL ANTITUBERCULOSIS PLANTS

Khushboo Vaghela ^{*1}, Dhara Bhatt ², Bhavita Dhru ¹ and Maitreyi Zaveri ¹

K. B. Institute of Pharmaceutical Education and Research ¹, Gandhinagar - 382023, Gujarat, India.

Medisynth Chemicals Pvt. Ltd. ², Navi Mumbai - 400705, Maharashtra, India.

Keywords:

Catechin, Rutin, Quercetin,
Kaempferol, *L. reticulata*, *C. hirsutus*

Correspondence to Author:

Dr. Khushboo Vaghela

K. B. Institute of Pharmaceutical
Education and Research, Gandhinagar
- 382023, Gujarat, India.

E-mail: Khushboovaghela19@gmail.com

ABSTRACT: Modern phytochemical analysis in terms of fingerprinting of different bioactive phytoconstituents in the roots of *Leptadenia reticulata* and whole herb of *Cocculus hirsutus* belonging to the family *Asclepiadaceae* and *Menispermaceae* respectively. High-performance liquid chromatography (HPLC) analysis of roots of *Leptadenia reticulata* and whole herb of *Cocculus hirsutus* were carried out to develop the fingerprint and verify the presence of standards such as Gallic acid, Catechin, Rutin, Quercetin and Kaempferol in the plant extract. RP-HPLC was performed on an Agilent 1260 Infinity equipped with Inertsil ODS 3V (250 mm x 4.6 mm), 5 µm as a stationary phase, by injecting 20 µL of the sample (1 µg/mL) at the flow rate 1.5 mL/min and temperature 30°C using mixture of Mobile Phase A consist of 1 % Ortho phosphoric acid in water and mobile phase B consist of acetonitrile (20:80) with 60 min run time and the spectra were measured at 364nm using UV detector. The retention time of standard Gallic acid, Catechin, Rutin, Quercetin and Kaempferol were 6.4 min, 10.8 min, 18.2 min, 24.3 min and 29.1 min respectively. Retention time of roots of *Leptadenia reticulata* and whole herb of *Cocculus hirsutus* extracts were similar to that the standard retention time. HPLC fingerprinting shows the overlay between the four different markers such as catechin, Quercetin, Kaempferol and Rutin with aqueous extract of *L. reticulata* and *C. hirsutus*. In *L. reticulata* all the four markers are present and in *C. hirsutus* contains all three markers except Catechin in given quantity of sample.

INTRODUCTION: Plants are the major source of secondary metabolites that is the main interest to man since long. In current years' secondary metabolites are used directly as precursors or as main leading molecule, in the field of pharmaceutical industry ¹. *L. reticulata* is a restorative and stimulant. The leaves and roots are used in wounds, skin infections, asthma, and ear disorders. According to Ayurveda, it is act to give general strength of body.

It also cures tuberculosis, hematemesis, emaciation, cough, dyspnoea, eye diseases, fever, and in burning sensation ²⁻⁴. According to Unani system of medicine, *C. hirsutus* is used as tonic, antipyretic, good for fractures, lessens thirsty and useful in tubercular glands related problems. It relieves vata and kaphadoshas. It has potency as a detoxifier. It is has aphrodisiac properties.

Root is used as laxative, in joint pains, tonic, diuretic, demulcent, antiperiodic in fever, in malaria, kidney problems and in treatment of skin diseases. Mucilage is used externally for cooling medicine in eye problems in eczema, prurigo, dyspepsia and impetigo ⁵⁻⁶. Roots of *Leptadenia reticulata* and whole herb of *Cocculus hirsutus* indicates the presence of Flavonoids, saponins,

QUICK RESPONSE CODE 	DOI: 10.13040/IJPSR.0975-8232.14(7).3539-43 This article can be accessed online on www.ijpsr.com DOI link: http://doi.org/10.13040/IJPSR.0975-8232.14(7).3539-43
---	--