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Research Article

To Study Phytochemical Screening and HPLC Analysis Plant Extract of *Ricinus communis*

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Abstract

Since ancient time the herbal medicines are effective in the treatment of various ailments. Therefore, these plant drugs deserve detailed study in the light of modern science, and their taxonomical relatives can lead to the development of invaluable plant drugs for many dreadful diseases. In the present article we are discussing regarding the phytochemical and HPLC analysis of plant extract *Ricinus communis*.

Keywords: Phytochemical Screening; *Ricinus communis*

Introduction

The essential values of some plants have long been published, however, a large number of them remain unexplored as yet [1]. The most important of these bioactive constituents of plants are alkaloids, tannins, flavonoids, and phenolic compounds Lantanoside, linaroside and camarinic acid have been isolated and are being investigated as potential nematocides Ricinus oil is sometimes used for the treatment of skin itches, as an antiseptic for wounds, and externally for leprosy and scabies Plant extracts are used in folk medicine for the treatment of cancers, chicken pox, measles, asthma, ulcers, swellings, eczema, tumors, high blood pressure, bilious fevers, catarrhal infections, tetanus, rheumatism, malaria and atoxy of abdominal viscera Ricinus twigs and stems serve as useful fuel for cooking and heating in many developing countries [2]. Polyphenols especially TF exert cancer chemo preventive activity of inducing apoptic signals. The anti inflammatory activity of the Bioactive Compound Oleanonic acid were tested against through the carrageen an induced Rat –paw Oedema model [3].

In the present investigation, we report our findings on the total extractions of chemical components of the plant by HPLC method.

Materials and Methods

Plant materials are collected from university botanical garden and the identified plant was confirmed by plant taxonomist. The preliminary phytochemical screening tests were carried out on the aqueous leaf crude extract of *Ricinus Communis* using standard procedures to identify the constituents [14].

Extraction of the compound

For crude extraction fresh plant material were washed with tap water, air dried and homogenized to fine powder and stored in air tight bottles. 10gms air dried powder mixed with 100 ml water at 37 ^{0}C for 48 Hrs. filtered in muslin cloth centrifuged at 500 g for 10 min. The supernatant was stored at 4 ^{0}C.

The compound can be extracted from above supernatant by passing through the column and is first fitted with Cotton and then silica gel, activated charcoal and again silica gel in ratio 1:2:1 and the crystals of plant extract are collected [4-6].

HPLC analysis

The *Ricinus Communis* leaf extracted and purified compound was tested for the compound conformity and purity. The com-

pounds extracted from leaf, stem, root and flower were set up for HPLC (High performance liquid chromatography) to test the purity of the compounds [7,8]. In the HPLC mobile as well as stationary phases are used to test the purity of the compound. Usually a single gradient or a binary gradient are used as mobile phase. From the already available data it is known that the mobile phase used are shown in the figures itself. The detector used here is D_2 lamp as the measurement of the sample is <400 nm. The run time was set to 1 ml/1min. An injection volume of 20 ul is injected in to the stationary phase column [9-11]. The gradient program was set up and the peak analysis was estimated by observing the graph and comparing the obtained chromatogram with that of the already available data [12].

Result and Discussion

The order of susceptibility of *Ricinus Communis* on microorganisms is as follows *P. aeruginosa* > *B. subtilis* > *E. Fecalis*> *E. coli.*

Qualitative Test	*Ricinus Communis*
Terpenes	+ ++
Fixed Oils	++
Flavones	+++
Alkaloids	+
Glycoside	+
Sterols	+
Phenols and Tannins	++

Table 1: Phyto Chemical Screening of *Ricinus Communis.*

+: Low Concentration, ++: Medium Concentration & +++: High concentration.

Phenolic compounds are reported to the active quenching oxygen –derived free radicals by donating hydrogen atom or an electron to the free radical. It has been well known that plant materials have been well known that plant materials have shown to neutralize free radicals in various invitro model systems Earlier the poly phenolic compounds have protective effects on mutagenesis and carcinogenesis in human when ingested 1g daily from a diet rich in fruits and vegetables The phenolic and flavonoid contents results of phytochemical analysis were carried out by HPLC method [15-17].

Microbes	Zone of Inhibition in mm Mean +/- SD	
	Crude	Coloumn
E. Coli	7.1+/-0.6	4.0+/-0.6
E. Fecailis	6.2+/-0.6	4.0+/-0.2
B. Subtilis	6.8+/-1.2	5.2+/-0.8
P. Aerugens	8.0+/-0.4	5.2+/-0.8

Table 2: Anti Bacterial activity of crude and column extracts *Ricinus Communis.*

Bioactive potential of Flavonoids has been reported. The present results comparable with comparable24who reported the antimicrobial activity. In light of the fact that Micro organism are becoming resistant against the drugs in use, present investigation is of great importance in pharmaceutical industries for preparing plant based antimicrobial drugs.

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