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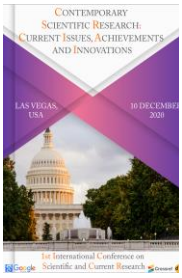

Determination Of The Quantitative Content Of Biologically Active Substances In The Dry Extract Scutellaria Iscanderi Juz

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ABSTRACT

For the quantitative determination of the content of biologically active substances (the sum of flavonoids) in the dry extract of Scutellaria Iscanderi Juz, a spectrophotometric method of analysis was proposed in terms of apigenin (standard), based on the reaction of complexation of flavonoids with aluminum chloride. Found that the content of the sum of flavonoids in the dry extract of Scutellaria Iscandari is in the range of 2.5-3%.

KEYWORDS

Scutellaria Iscandari Juz, Dry extract, flavonoids, apigenin, UV spectrophotometry,

INTRODUCTION

Today, herbal raw materials are the source of more than a third of all medicines. The therapeutic value of medicinal plants is determined by the biologically active substances included in their composition, which include all substances that can affect biological processes in the human body [1].

Many plants of the Lamiaceae family have a wide spectrum of biological activity and are used in both official and folk medicine. Such representatives include the species of the Scutellaria genus - Scutellaria L., which are widespread in many countries of the world.

The healing properties of plants of the Scutellaria genus (Lamiaceae) as an antihypertensive, sedative, vasodilator and hemostatic agent has been known since ancient times in Chinese folk medicine. Several

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species of plants of this genus also grow on the territory of Uzbekistan, in particular, Scutellaria Iscanderi Juz.

THE MAIN FINDINGS AND RESULTS

The study of the chemical composition of Scutellaria Iscanderi showed that it contains biologically active components such as flavonoids, glycosides, essential oils, organic acids, tannins, macro and micro elements, etc.

For the first time, we have developed a technology for obtaining a dry extract from the aerial part of Scutellaria Iscanderi. The optimal technological parameters of the extraction process have been determined, which provide the maximum yield of dry extract with the maximum content of biologically active substances [2].

Flavonoids are one of the main active ingredients in the dry extract of Iskander's Skullcap. The content of flavonoids largely determines the main pharmacological action of Scutellaria Iskandar. In this regard, the aim of this study is to determine the quantitative content of the sum of flavonoids in the dry extract of Scutellaria Iscanderi using the UV spectrophotometry method [3]. The developed method is based on the reaction of complexation of flavonoids with aluminum chloride (A1C13). Apigenin was used as a working standard sample. The determination was carried out on an SF device (ShimadzuUV-1800) in the wavelength range of 200-450 nm. To determine the analytical wavelength, we studied the UV spectra of alcohol solutions of the investigated dry extract, as well as a standard sample of apigenin in an individual state and with the addition of aluminum chloride, which enters into complexation reactions with the compounds under study.

The results of spectral analysis showed that the maximum of the absorption spectrum of apigenin (standard) without A1C13 is in the region of 330 nm, and their complex with aluminum ions - at 388 nm. The interaction of apigenin (standard) with aluminum ions leads to a bachromic shift of 58 nm in the absorption maxima of the starting reagents. The maximum of the absorption spectrum of complexes of flavonoids with A1C13 from alcohol solutions of dry extract is at 388 nm and coincides with the wavelength of the apigenin complex (388 nm), which makes it possible to use this wavelength as an analytical one.

Thus, the results of spectral analysis showed that the content of the sum of flavonoids in terms of apigenin in the dry extract of Scutellaria Iscandari L. is 2.5-3.0%. The proposed method can be used to assess the quality of the dry extract (substance) of Scutellaria Iscandari by the content of flavonoids and their standardization.

CONCLUSION

1. A method for the quantitative determination of the sum of flavonoids in dry extract of Scutellaria Iscanderi Juz is proposed. in terms of apigenin (standard) using UV spectrophotometry,
2. Based on the results of the study, it was established that the content of the sum of flavonoids in the dry extract of Scutellaria Iscanderi Juz. is in the range of 2.5-3.0%.

REFERENCES

1. Okladnikova N.N.(2007) "Biologically active substances of Scutellaria baicalensis, introduction in vitro" abstract of the thesis, Tomsk:
2. Ismailova P.L., Abzalova N.A. Ismailova M.G. Muratova Sh.Kh. (2019) Determination of the optimal technological parameters of the extraction process Scutellaria Iscanderi L. // Pharmaceutical journal , No. 1, -pp. 78-81.

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3. Shestakova T.S., Belonogova V.D., Petrichenkov M. (2016) Spectrophotometric method for determining the content of flavonoids in the grass Veronica Chamaedrys L. (SCROPHULARIACEAE) // Medical Almanac No. 1 (41) March, Perm, -p. 127.