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The comparative modern methods of qualitative and quantitative analysis of bioflavonoids, and the content of rutin and quercetin in medicinal plant raw materials is analyzed.

Keywords: polyphenols, flavonoids, kvertsetin, rutin, chromatography, spectrophotometry.

Flavonoids are a large class of natural compounds. Due to the inherent wide spectrum of biological action and antioxidant activity interest in flavonoids is great. In modern science, great attention is paid to the search for optimal ways of using flavonoids in the interests of improving people's health, preventing and treating various pathologies caused or accompanied by the intensification of processes of free radical oxidation [1].

In that work, the analysis of the quantitative content of bioflavonoids (rutin and quercetin) in medicinal plant raw materials was made with the help of spectrophotometric and chromatographic-mass-spectrometric methods.

The literature data were analyzed and the materials containing the largest number of investigated flavonoids were selected. During the work, SSS (standard state sample) of rutin and SSS of quercetin were used. During the spectrophotometric method, the optical density was measured at 408-616 nm using a SF-2000 spectrophotometer, the results were recalculated into routine. When the chromatographic mass-spectrometric-method was carried out, the analysis of the extract samples was carried out using a liquid chromatograph Dionex UltiMate 3000. During the analysis chromatograms were recorded [2].

The comparative characteristics of the studied methods for the determination of flavonoids have shown that the spectrophotometric method for determining bioflavonoids points at an overestimated rutin content in comparison with the results of chromatography-mass-spectrometric analysis. On the basis of the obtained results, it can be concluded that spectrophotometry does not make it possible to carry out, along with quantitative, a qualitative analysis of bioflavonoids and to estimate the actual content of the flavonoid in the medicinal plant raw material, while the use of the chromatography-mass spectrometric method of analysis makes it possible to identify individual flavonoids regardless of the presence of extraneous and/or related compounds.

BIBLIOGRAPHY

1. *Nolvachai, Y.* GC for flavonoids analysis: Past, current, and prospective trends / Y. Nolvachai, P. J. Marriott // *J. of separation science.* – 2013. – Vol. 36, issue 1. – P. 20.

2. *Лебедев, А. Т.* Масс-спектрометрия в органической химии / А. Т. Лебедев. – М.: БИНОМ. Лаборатория знаний, 2003. – 493 с.

THE IDENTIFICATION OF EXPRESSION'S LEVEL OF NUCLEAR ANTIGEN KI-67 IN PATIENTS WITH PANCREATIC CANCER

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During the molecular biological study of the expression's level of the nuclear antigen Ki-67 in patients with pancreatic cancer, a lack of expression was found in 34% of patients. High level of expression was detected in 11 (22%) patients; moderate level in 12 (24%) patients; low expression was noted in 9 (18%) patients.

Keywords: pancreatic cancer, expression, antigen, Ki-67.