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ЎЗБЕКИСТОН ТИББИЙ-ИЛМИЙ ФАКУЛТАТИ  
БИЛАН ШУЎЛАНАУВЧИЛАР "ТАЪБОАТ"  
АКАДЕМИЯСИ РАМИ



ГЕДЕОН РИХТЕР



**Conclusions:** based on the proposed immobilized reagents, sorption spectroscopic methods for determining copper in drinking and wastewater, industrial waste have been developed.

## SELECTION OF CONDITIONS FOR THE DETECTION OF KETOTIFEN BY TLC METHOD

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**Key words:** ketotifen, solvent system, staining reagents, silufol, sensitivity.

**Relevance:** Ketotifen prevents the development of bronchial asthma cells, fleeting allergic reactions, blocks H1-histamine receptors. It has such negative effects as dizziness, drowsiness, decreased mental reactions. When providing first aid for ketotifen poisoning, it is necessary to study the methods of its isolation and analysis from chemical-toxicological objects.

**Purpose of the study:** Taking into account the insufficient chemical and toxicological knowledge of ketotifen, one of the urgent tasks is the development of sensitive, express and high-precision methods that meet the requirements of chemical and toxicological analyzes and the study of the factors influencing them. Based on the foregoing, the goal was to develop methods for the analysis of ketotifen by TLC, which is one of the simplest and fastest methods for detecting chemical-toxicological objects.

**Materials and Methods:** A mixture of organic solvents, as well as staining reagents, was selected to determine the authenticity of the reference substance ketotifen by TLC. To separate ketotifen by TLC, the following experimental work was carried out. 0.025 g of an exact weight of ketotifen was dissolved in 95% ethanol. A sample of the ketotifen solution was applied to a Silufol chromatographic plate using graduated capillaries or an MSh-10 microsyringe.

After drying at room temperature, plates with samples were placed in a chromatographic chamber preliminarily saturated with solvent vapors for 15 min. As a result of the experiments, it was found that when ketotifen is detected by chromatography in a thin layer of a sorbent, the most optimal solvent system is mixtures: chloroform - ethanol - 10% hydrochloric acid (6:3:1), where the retention factor values of the drug are 0.43. A number of chemical compounds and their mixtures were used as reagents for detecting drug localization zones on chromatographic plates. The results indicate that among the reagents used, the most optimal for the detection of ketotifen is the Mounier-modified Dragendorff reagent and Bouchard's reagent. In order to determine the sensitivity of the method, solutions with an exact content of 0.5 µg to 10 µg of the drug were applied to chromatographic plates and chromatographed under the above conditions. In this case, the retention factor values of the formed spots and their color were determined, and the background intensity was also observed.

**Results:** As a result of the experiments, it was found that when ketotifen is detected by chromatography in a thin layer of a sorbent, the most optimal solvent system is mixtures: chloroform - ethanol - 10% hydrochloric acid (6:3:1), where the retention factor values of the drug are 0.43. Among the reagents used, the most optimal for the detection of ketotifen is the Mounier-modified Dragendorff reagent and Bouchard's reagent. The detection limit for ketotifen is 0.5 µg per sample.

**Conclusions:** Optimal conditions for the detection of ketotifen by TLC have been developed. This technique will make it possible to purify the extract of ketotifen isolated from biological objects from ballast substances.

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