

THE USE OF THIN-LAYER CHROMATOGRAPHY IN IDENTIFICATION OF GLAUCINE HYDROCHLORIDE

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Intoduction. The group of cough medicines includes drugs, which enhance the sputum elimination and help to ease the exhausting cough in patients. Drugs, that inhibit the cough center may be applied in specific cough therapy, but their use is restricted because of the possibility of drug addiction development. Nowadays the drugs, use of which doesn't lead to this complication are most commonly involved in therapy and the glaucine hydrochloride is one of them. Glaucine hydrochloride (Glauvent) possesses an antitussive and mild hypertensive properties and also doesn't inhibit the inspiratory center when compared to codeine. The drug is perscribed in those patients with lungs and upper respiratory tract disorders, who also experience severe cough. Glauvent also promotes interest in sence of chemical toxicology.

Aim. Development of conditions for detection of glaucine hydrochloride in presence of other substances via thin-layer chromatography (TLC) is the goal of our work.

Materials and methods. In our research we used the Sorbfil plates (silicagel TLC-IA, fraction of 5:17 μm), glass plates for high performance thin-layer chromatography (HPTLC, silicagel CGGS, fraction of 5:20 μm , layer thickness of 130 ± 25 μm), glass plates by Merck (Germany) (silicagel GF-254), systems of mobile solvents with acid, alkaline and neutral properties and developing reactants.

Results and discussion. The most optimal mobile solvents systems for identification of gluacine hydrochloride are: methanol—ammoniac (100:1,5), ($R_f=0,56$), plates Sorbfil, butanol-1-acetic acid—water (66:17:17) ($R_f=0,47$), plates Merck, ethylacetate—methanol—diethylamine (30:20:1,5) ($R_f=0,55$), plates Sorbfil. The possibility of dividing the glaucine hydrochloride from other drugs with similar activity was also investigated. Division was reached in following systems: methanol—ammoniac (100:1,5), ethylacetate—toluole—diethylamine (30:20:1,5). For development of glaucine hydrochloride on chromatogram we used the following reactants: bromphenol blue, iodine vapour, Dragendorf's reactant in different modifications. The Dragendorf's reactant appeared to be the most sensitive: we have identified 0,5 μg of the drug in a sample.

Conclusions. The results of our research may be used during the toxicological analysis for glaucine hydrochloride.