

APPLICATION OF TLC IN THE ANALYSIS OF SECNIDAZOLE

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Introduction. Secnidazole is attributed to the group of antiprotozoal medicines and widely used for treatment of infectious diseases, at the same time it is possessed of quite a number of side effects showed by classic symptoms of acute intoxication, especially when interacting with alcohol.

Aim. The research purpose is to develop the conditions of secnidazole identification by the method of chromatography in thin layers of sorbent.

Materials and methods. Secnidazole of pharmacopoeial purity was used in the experiment; its solutions in ethanol with the concentration of 1 µg/ml and 0.1 µg/ml were prepared.

The chromatographic plates Sorbfil® PTLC-PH (silica gel STC-1HP, PETP, silica sol, 8 ÷ 12 µm fraction, 100 µm layer thickness) purchased from IMID LLC (Russia) were used as the thin layers.

Results and discussion. The chromatographic dealing of secnidazole has been studied in 18 mobile phases: 1. chloroform – acetone (8:2); 2. ethyl acetate; 3. chloroform – methanol (9:1); 4. ethyl acetate – methanol – 25% NH₃ (85:10:5); 5. methanol; 6. methanol – *n*-butanol (6:4); 7. methanol – 25% NH₃ (100:1.5); 8. cyclohexane – toluene – diethylamine (75:15:10); 9. acetone; 10. chloroform – dioxane – acetone – 25% NH₃ (47.5:45:5:2.5); 11. toluene – acetone – ethanol – 25% NH₃ (45:45:7.5:2.5); 12. chloroform – *n*-butanol – 25% NH₃ (70:40:5); 13. chloroform; 14. chloroform – methanol – CH₃COOH conc. (90:10:1); 15. toluene – CH₃COOH conc. (3:1); 16. toluene – methanol – CH₃COOH conc. (9:1:1); 17. ethyl acetate – methanol – CH₃COOH conc. (85:10:2.5); 18. chloroform – methanol (1:1).

When using the mobile phases 3, 5, 8, 9 the investigations were carried out also at the plates processed previously with 0.1 mole/l KOH solution in methanol and then dried at 110°C for 30 min. In the mobile phase 6 the plates were previously processed with 0.1 mole/l NaBr solution.

UV-light before and after processing with the vapour of HCl; the Dragendorff reagent modified by Munier and 0.1 mole/l KOH solution in methanol were used for developing the spots of secnidazole at the plates.

Conclusions. The chromatographic mobility of secnidazole has been studied under the conditions of TLC-screening using general and some separate systems of solvents. The reagents for the secnidazole spots development on chromatographic plates have been offered; their sensitivity has been ascertained.