

DEVELOPMENT OF A SPECTROPHOTOMETRIC METHOD OF QUANTITATIVE DETERMINATION OF N-(4-TRIFLUOROMETHYLPHENYL)-4-HYDROXY-2,2-DIOXO-1H-2λ⁶,1-BENZOTHIAZINE-3-CARBOXAMIDE

Akhras H., Petrushova L. O., Alexeeva T. V.
National University of Pharmacy, Kharkiv, Ukraine
lidiyapetrushova@gmail.com

Introduction. Today non-steroidal medicines from oxicams group are the most popular drugs that are used for treatment of pain syndrome. In spite of such positive effects of oxicams medicines of this group have a large number of side effects. One of them is toxicity.

In the course of scientific research carried out at the Department of Pharmaceutical Chemistry of National University of Pharmacy series of new substances with high analgesic activity that are the structural isomers of oxicams were obtained. Among them N-(4-trifluoromethylphenyl)-4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxamide was chosen because of the highest level of analgesic activity (it suppresses the analgesic activity of the prototype Lornoxicam in 2-3 times) and the lowest toxicity (LD₅₀>2000).

One of the stages in the creation of medicinal products is the development of methods for determination of its quality, namely identification, tests for purity and quantitation.

Aim. Development of the method of quantitative determination of N-(4-trifluoromethylphenyl)-4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxamide and procedure required.

Materials and methods. The object of investigation was substance of N-(4-trifluoromethylphenyl)-4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxamide. The mass for analysis was measured by analytical balance Axis ANG-200, absorbance were measured by the spectrophotometer Evolution 60 S Thermo Scientific. Absorption spectra were recorded in the wavelength range from 200 to 400 nm.

Results and discussion. To develop a quantitative determination procedure for N-(4-trifluoromethylphenyl)-4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxamide, the relationship between the absorbance and the concentration of the solution was studied. Absorption obeys the Bouguer-Lambert-Beer law. For the calculation of the percentage of analyzed substance the value of specific absorbance was used. The relative uncertainty of the average results was 1,2 %.

Conclusion. For quantitative determination of N-(4-trifluoromethylphenyl)-4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxamide method of UV-spectrophotometry can be used.

DEVELOPMENT OF METHOD FOR DETERMINATION ORNIDAZOLE IN THE MULTICOMPONENT MEDICAL LINIMENT

Al Sayed Moussa Al-Mousawi, Bevz O. V.
Scientific supervisor: assoc. prof. Abu Shark A. I.
National University of Pharmacy, Kharkiv, Ukraine
bevz.helen@gmail.com

Introduction. Nitroheterocyclic chemicals have a wide variety of applications, ranging from food preservatives to antibiotics. 5-Nitroimidazoles are a well-established group of antiprotozoan and antibacterial agents. One of them is Ornidazole (1-(2-Hydroxy-3-chloropropyl)-2-methyl-5-nitroimidazole) - a member of the nitroimidazole group with a 2-hydroxy-3-chloro-propyl group in position 1 and a methyl group in position 2. So it is used for the treatment of susceptible protozoal infections and prophylaxis of anaerobic bacterial infections and is used like metronidazole in a range of infections.

There are many brands of ornidazole in Ukrainian market from different manufacturers. Also there is pharmacy-prepared antifungal liniment, it contains active ingredients ornidazole, miramistin and the additional components – purified water, peach oil and lanolin.

Aim. The aim of our study is to develop methods for quality control of ornidazole in multicomponent medicinal form – antifungal liniment.