

## RESEARCH TO IMPROVE THE STABILITY OF VITAMIN EYE DROPS

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Most drugs for the topical treatment of cataracts contain medicinal substances that contribute to the activation energy and metabolic processes in the lens and cornea preservation electrolyte composition of the cytoplasm, the normalization of the function of cell membranes, providing antioxidant protection, enhancing the exchange of aqueous humor, which accelerates the leaching of toxic degradation products stimulate reparative and regenerative processes in cases involving disturbances of metabolism in tissues of the eye, reduces inflammation in the conjunctiva, cornea and other eye structures.

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For our research we took a popular eye drops among the people of older age who suffer from cataract. The eye drops contain riboflavin, ascorbic acid and glucose.

In order to increase the shelf life of vitamin eye drops studies were conducted on the effect on the microbiological stability of antimicrobial preservatives, which are mainly used nipagin and nipasol, and their combination in a ratio of 1:3 in a total amount of 0,1%.

Eye drops were prepared by conventional techniques under aseptic conditions. For studies we have prepared a series of samples of 10 drops vials of 10 ml, which was sterilized at 120 °C in 8 minutes. Results of test "Efficacy of antimicrobial preservatives" in accordance with GFU showed that bacteria death occurs fast right after the test samples are contaminated. Logarithm of reduction in the number of viable cells *S. aureus* in the plated crop was 1,0 in a day and 3 when viable cells were not found during further platings. Logarithm reduction in viable cells in the *C. albicans* initial seeding was 0,43 after day – 1,021. After 7 days, viable cells *C. albicans* were not identified. To sum up, the eye drops that were stabilized with nipagin and nipasol stayed sterile and stable according to all factors that been researched during one week.