

Further studies of this the type of products are very important for choosing a biosource for children suffering from intestinal disorders.

## A METHOD OF PRODUCING A MEDICAMENT FOR TREATMENT OF CATARACT

Makarenko E. E., Strilets O.P.

Scientific supervisor: assoc. prof. Kaliuzhnaia O. S.

National University of Pharmacy, Kharkiv, Ukraine

biotechnology.nuph@gmail.com

**Introduction.** The main cause of blindness is cataract. In cataract, there is partial or complete opacity of the lens, its transparency is lost and only a small part of the light rays enters the eye, so vision decreases, and the person vision is unclear and blurred. Disorder may occur at any age. There is a congenital cataract, traumatic, complicated, radiation, cataract, caused by common diseases of the body. But most commonly found an age (senile) cataract, which develops after 50 years old. According to the world health organization, about 17 million people suffer from cataracts, mostly after the age of 60. In the age from 70 to 80 years, cataracts appear at 260 men and 460 women per 1000 people, and after 80 years at almost everyone. Statistics indicate that 20 million people in the world have cataracts that cause blindness. Cataracts in most cases, one of the manifestations of age disease, but also arise from many other causes: intoxication, metabolic disorders, hereditary factors, penetrating ionizing radiation, various injuries and eye wounds.

**Aim.** To study the method of obtaining a drug for the treatment of cataracts with the help of freshly enucleated eyes of cattle.

**Materials and methods.** The method consists in the fact that isolated from the freshly enucleated eyes of cattle intact lenses with a preserved capsule at a temperature of 25°C and a pressure of 730 mmHg, rinsed them in water and salt saline solution. Vertebrates intact lenses incubated in a water-salt solution, centrifuged tissue extract, collect the supernatant, divide it by dissolving in 100% solution sulfate, filtered, dialist to remove ions of ammonium sulfate, divide by isoelectrofocusing in the sucrose density gradient pH 3.5-10.0, temperature 4-6°C and voltage 500-2000 V for 72-96 hours, collect the fractions of acidic proteins, dialyze until complete removal of sucrose and ampholines, the resulting aqueous solution of the protein is dried and purified by electrophoresis with 7.5-15% polyacrylamide gel, elute the low molecular fraction  $R_f=0.9-0.95$  deionized water for 2-5 days with temperature 4-7°C, then the obtained fraction is dialyzed in dialysis bags with a pore transmission limit of 2-8 kDa with temperature 4-7°C for 7-10 days with deionized water, the resulting regulatory peptide is dried and dissolved in physiological water-salt solution. The invention provides an increase in the percentage of the output of regulatory peptides having biological activity in ultra-small doses, the isolation of highly purified polypeptides with low molecular weight. The final yield of the active peptide is 2 mg from 50 eyes of the raw product, after purification by electrophoresis peptides with the molecular weight less than 8 kDa are obtained, the activity of the peptides by biotesting is 125-160 %. Highly purified preparations are obtained after purification by electrophoresis and tested by reversed-phase high-performance liquid chromatography in a gradient of water / acetonitrile. According to this research, using the intact lenses with a preserved capsule containing the largest number of biochemical and physiologically active proteins and polypeptides, which allow to increase the percentage of regulatory peptides with biological activity in ultra-small doses, to allocate highly purified polypeptides with low molecular weight.

**Results and discussion.** 45 years old male patients with the diagnosis of primary cortical cataracts were the figures before treatment: vis OD  $0.6+1.0=0.8$ . Took a course of treatment with this drug, interlineal within 2 weeks of 1-2 drops 3 times a day medicament for the treatment of cataract. Indicators after treatment: OD vis  $0.8 + 1.0=1.0$ . After treatment, the enlightenment of the cortical layers of the lens was noted. The drug obtained in this way has an anti-cataract effect, which is expressed in the enlightenment of the cortical layers and a decrease in opacity at the seams of the lens cortex, and also allows to reduce crystalline astigmatism.

**Conclusions.** The proposed method allows to use the areas of the lens containing the largest number of biochemical and physiologically active proteins and polypeptides, to increase the percentage of regulatory peptides, to allocate highly purified polypeptides with low molecular weight. Eye drops obtained by this method have anti-cataract and anti-inflammatory effects and could be extensively used in eye practice.

## **ANALYSIS OF THE ASSORTMENT OF BIOTECHNOLOGICAL PRODUCT – BEER**

Marchenko A.A., Soloviova A.V.

Scientific supervisor: assoc. prof. Kaliuzhnaia O.S.

National University of Pharmacy, Kharkiv, Ukraine

marcenko162@gmail.com

**Introduction.** Beer is one of the most ancient products in the history of mankind, which is now a special place in the consumption of beverages, which is very popular and widespread. The brewing industry produces a huge amount of beer for every taste and purse. Beer is a low-alcohol beverage that is obtained by alcohol fermentation of malt with beer yeast, usually with the addition of hop. The content of ethyl alcohol in most varieties – from 3-6 % of revolutions, dry matter 7-10 %, carbon dioxide 0.48-1 %. Beer is the only alcoholic beverage containing hop's bitterness. Active substances that go from hops to beer have a soothing, analgesic effect, inhibit the growth and reproduction of bacteria. So, beer is obviously the biotechnological product.

**Aim.** The purpose of the study is to analyze the assortment of biotechnological products – beer.

**Materials and methods.** To analyze the beer's assortment, the types and variety of trade marks of light beer at the Ukrainian market had been studied, such as: «Carlsberg», «Baltika», «Tuborg», «Lvivske», «Velkopopovický Kozel», «Zhigulivske», «Chernihivske», «Obolon». We used the descriptive research method: Internet sources that are freely available were analyzed. Organoleptic evaluation was also carried out.

**Results.** After sources analyzing, it was found that leaders of demand among brands are: «Carlsberg» (19.4 %), «Baltika» (13.2 %) and «Lvivske» (8.3 %). The following trademarks are: «Tuborg» (6.7 %) and «Velkopopovický Kozel» (4.9 %). And at the end of leaders list are: «Zhigulivske» (3.1 %), «Chernihivske» (2.6 %) and «Obolon» (2.6 %), other trade marks (39.2 %). In the structure of domestic production 49 % of products are produced in PET packaging, 35 % in glass bottles, 12 % in kegs and 4 % in metal cans. According to the organoleptic, beer complies with the standards (Exterior – Transparent, flameless liquid, without sieve and extraneous inclusions, Taste – Malt and hop flavor, Smell – Aroma that corresponds to a beer, without foreign smells and flavors, Foaming – The height of the foam is not less than 20.0 mm; foam resistance – not less than 2.0 minutes).

**Conclusion.** Based on the results of research, could be concluded that Ukraine has a high level of beer production. Depending on the consumption of beer by Ukrainians, the productivity and number of brands are increasing.

## **DEVELOPMENT OF THE COMPOSITION AND TECHNOLOGY OF CHILDREN'S CHEESE PRODUCT ENRICHED WITH PROBIOTICS**

Maystrenko N.O., Kaliuzhnaia O.S.

Scientific supervisor: prof. Strilets O.P.

National University of Pharmacy, Kharkiv, Ukraine

natashamaystrenko9@gmail.com

**Introduction.** The development of the full of value biological functional food products that have a balanced composition by combining the raw material of animal and plant origin is an effective measure of therapeutic and prophylactic usage in solving the problem of providing high-grade food products of various age groups of the population, especially children. Nowadays solving this problem is very relevant. Selection of