THE ROLE OF THE NUTRIENT ENVIRONMENT IN THE PRODUCTION OF PROBIOTIC PREPARATIONS BASED ON LACTOBACTERIA

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Nowadays, the world has seen an increase in infectious diseases of the skin and gastrointestinal tract. One of the reasons is the decrease in the quantity and quality of representatives of normal microflora lactic acid bacteria. These include representatives of the genus Bifidobacterium and Lactobacterium. Therefore, for the pharmaceutical and perfumery-cosmetic industry, the development of drugs containing living probiotic bacteria is urgent. The general scheme for obtaining the preparation of human normoflora includes first of all the isolation from the environment of the strane-producer, the scaling of the seed, the accumulation of biomass, the standardization and the creation of a dosage form. The critical stage of the technological process is the accumulation of bacteria, which depends on the selection of optimal conditions and composition of the nutrient medium. Traditionally, for the study of lactic acid bacteria uses expensive nutrient media that ensure their growth and the selection. In the world practice, for cultivation of lactobacilli there are several tens of nutrient media. The most recognized were the environment of Maine, Rogoza, Sharp (MRS). The culture medium of MRS-4 differs by the presence of additional hepatic water, fermented peptone casein hydrolyzate, which in turn makes it possible to reduce the amount of the added baker's yeast extract. The introduction of additional components, along with improving efficiency, also affects the cost of the medium. Bacteria of the genus Lactobacillus have specific nutritional needs (nucleic acids, polysaccharides, amino acids, etc.), that is, organic forms of nitrogen not synthesized by them, as well as vitamins, macro- and micro elements. Therefore, today nutrient media contains various extracts of plant raw materials are known. So developed nutrient medium based on the enzymatic hydrolyzate of cabbage and the enzymatic hydrolyzate from the colonies of Tibetan Milk mushroom that allows you to get lactobacilli with high growth rates. It should be noted that, to date, there are no strict recommendations for selection medium, therefore, in the pharmaceutical development it is necessary to make a reasonable choice of the nutrient medium for a particular producer, which will provide the microorganism with all the necessary components to achieve the maximum specific rate of biomass growth. At the Department of Biotechnology of the National University of Pharmacy, a nutrient medium for the accumulation of lactobacilli as an active pharmaceutical ingredient of a soft dosage form will be selected.