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# Creation of Biologically Active Applications Based on Ficus Carical Fruit

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***Abstract: Biologically active biologically active antioxidant, antihypoxant and immunomodulatory agent in the treatment of acute respiratory attacks of the upper respiratory tract (catarrh), tracheitis, bronchitis and bronchiectasis, based on the substance of the bioactive substances in the fruit of Ficus carica L (fig) biotechnologically bound with milk protein development is underway.***

***Keywords: tracheitis, bronchitis, bronchiectasis, lactose, casein, lactoferrin, antioxidant, antihypoxant, antiradical***

## I. INTRODUCTION

Almost three-quarters of modern biotechnological products account for biologically active substances: enzymes, vitamins, flavonoids and other substances in biosynthetic preparations. Microbial synthesis of amino acids and microbial proteins is of great importance in biotechnology in the production of food additives and biocorrectors. A relatively new direction is the production of hypo- and allergen-free products from proteolytic enzymes, and a completely new direction - the use of enzyme preparations to change the functional and technological properties on the basis of raw milk. materials, such as the basis of bifidobacteria - lactulose and its derivatives from lactose or whey-casein protein complexes. However, the study of low molecular weight cationic proteins of enzymatic nature derived from secondary milk raw materials - the main factors of the defense system of the human and animal body: angiogenin, lactoferrin, lactoperoxidase, lysozyme, pancreatic ribonucleases, etc. is relevant. They have specific properties - antioxidant, antimicrobial, immunomodulatory, anti-inflammatory, mutagenic effect, and therefore they can be used both in food and medicine.

## II. PRACTICAL PART

In folk medicine, milk tincture from the fruits of Ficus carica L. is widely known as a means of treating acute catarrh of the upper respiratory tract (catarrhal), tracheitis, bronchitis and bronchiectasis attacks. The main principle of action is to enhance the healing properties of biologically active substances in their milk-protein complex. Figs also contain more fiber, potassium, calcium and iron than other medicinal plants.

Figs contain up to 88.9% of dry matter, 20% of sugars, 0.5% of organic acids, 2.8% of ascorbic acid and a sugar index of 13-15 to 25-27 (SKI, the ratio of sugar to acid). The composition of pectin is one of the indicators of the quality of figs, because the processing of pectin in combination with sugars and acids produces products that protect the human body from radioactive and toxic substances. Pectin is of great importance in general therapy, as it plays an important role in activating the hepatic and intestinal circulation and in removing excess cholesterol, preventing atherosclerosis.

Lardaro figs, which are common in Uzbekistan, are characterized by high content of leukoanthocyanins, especially anthocyanins, which belong to the group of flavonoids. One of the main properties of these compounds is to reduce the permeability and fragility of the walls of blood capillaries. In addition, flavonoids exhibit antioxidant, antiradiative, anti-cancer, anti-inflammatory, antispasmodic, hypotensive and bactericidal activity. Regular consumption of these compounds leads to a significant reduction in the risk of developing cardiovascular disease. The role of flavonoids in figs in regulating the activity of xenobiotic metabolic enzymes has also been identified.

 

The stages of preparation of substances by biotechnological methods of bioactive substances in plant raw materials with components of whey are as follows: Processing of fig mass in whey in fermentation-reactors-obtaining a catalyst component that coordinates specific processes, carrying out the necessary catalytic process due to abrupt changes in biotransformation environments, purification of the product, separation and purification of the main raw materials in the enzymatic mixture. Appropriate control of the obtained substance, the development of technology for the development of drug forms, in particular capsule drug form. Oral administration of drugs is the most natural and convenient way for the human body to receive drugs. Within 1-3 hours after ingestion, 75% of drugs capable of absorption in the gastrointestinal tract are taken orally. It is the most common due to the simplicity of production of oral dosage forms, ease of use, accuracy of doses and high level of effect. For this reason, pharmaceutical companies often produce effective substances in the form of capsules for oral administration. In view of the above, the bioactive substances in the fruit of Ficus carica L. (fig), widely used in folk medicine, are antioxidants in the treatment of acute respiratory attacks (catarrh), tracheitis, bronchitis and bronchiectasis, based on the substance biotechnologically bound with milk protein. The development of biologically active supplements with antihypoxant and immunomodulatory properties is underway. It is known that exposure to viruses such as influenza virus, parainfluenza, rhinoviruses, respiratory syncytial viruses, adenoviruses causes respiratory tract injury and general infectious intoxication syndrome, which leads to acute respiratory attacks of the upper respiratory tract (catarrh), tracheitis, bronchitis and bronchiectasis. will be. It is well known that complications of the Covid-19 virus, which is common today, have been added to the list of respiratory diseases. A sharp increase in the mutational changes of the virus is accompanied by an increase in the number of its genotypes and the occurrence of various complications, a highly negative impact on the body's immunity. For this reason, the practical application of drugs that are effective against inflammation of the upper respiratory tract and, in turn, have antioxidant, antihypoxant and immunomodulatory effects. In most cases, antibiotics, which are etiotropic, highly effective drugs, play a leading role in the treatment of bacterial and mixed infections of the upper respiratory tract. However, it should not be forgotten about the side effects of antibiotic therapy: the activation of opportunistic microorganisms as a result of the breakdown of the physiological microflora of the intestine and nasopharynx, including allergic reactions.

Nowadays, doctors are increasingly preferring drugs based on homeopathic and medicinal plants. Because it is important in all of them with almost no side effects. This, of course, is due to the fact that today the range of drugs based on medicinal plants has increased by 70%. Also, the practical application of a relatively new direction in medicine - proteolytic enzyme preparations leads to an increase in the range of hypo- and allergen-free drugs that are harmless to the body. As a result, it will be possible to obtain bifidus-factor complex drugs based on whey-casein protein, which is a new functionally and technologically superior on the basis of milk protein. Such complex drugs have angiogenin, lactoferrin, lactoperoxidase, lysozyme, pancreatic ribonuclease, antioxidant, antimicrobial, immunomodulatory, anti-inflammatory, antimutagenic effect.

## III. CONCLUSION

Bioactive substances in the fruit of Ficus carica L. (fig), widely used in folk medicine, based on the substance biotechnologically bound with milk protein, are used in the treatment of acute upper respiratory tract infections (catarrh), tracheitis, bronchitis and bronchiectasis, antioxidant, antihypoxant and immunomodulatory. The development of biologically active additives with properties can be carried out.

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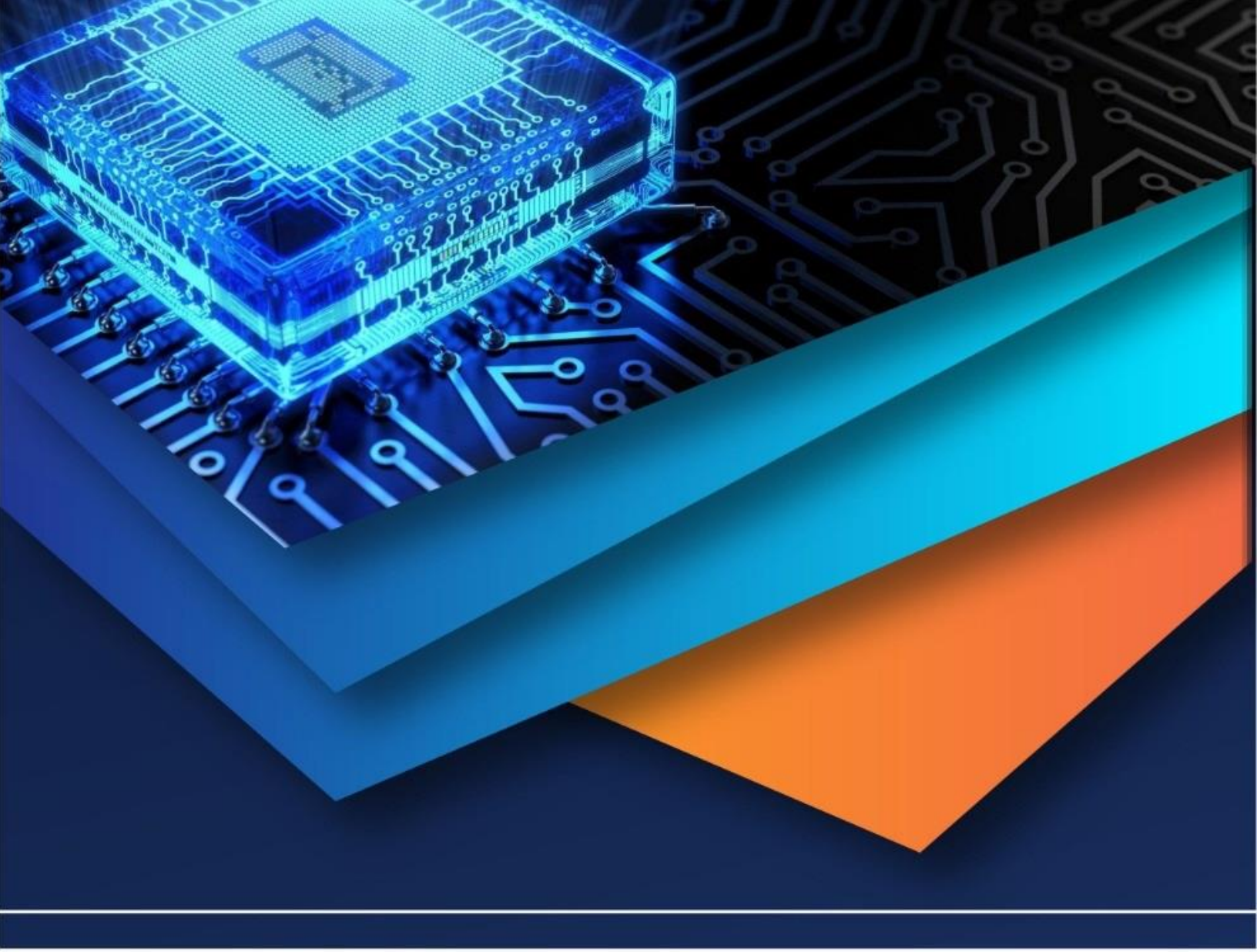

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