

## **BACTERIOPHAGES IN PHARMACEUTICAL AND FOOD INDUSTRIES**

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Bacteriophages - viruses that selectively affects the bacterial cells. Most often, bacteriophages multiply within bacteria and cause them lysis. 1896 - opening bacteriophages British bacteriologist Ernest Hankin.

Bacteriophage consists of a protein coat and genetic material - single-stranded or double-stranded RNA. The particle size – of from about 20 to 200 nm.

Due to its destructive effect on bacteria phages can be used with curative - prophylactic in various diseases (dysentery, cholera and so on.), As well as in the food industry: in the production of meat, poultry, cheese, vegetable products, etc. Improving the quality requirements of raw materials and products of animal origin requires the development of reliable and safe methods of protection from various hazards. One solution to this problem is to use a food production bacteriophages.

Bacteriophage applied for controlling various pests technical bacterial fermentations in the production of enzymes produced by bacterial cultures.

At the same time bacteriophage infecting bacteria culture is a dangerous pest - degenerate industrial strains of microorganisms (vaccines, agents of lactic acid, atsetonobutilovogo and some other fermentations, producers of antibiotics), causing serious violations of the process.

Bacteriophage - one of the most powerful factors in the variability of bacteria and actinomycetes. It plays a role in the self-purification of water and soil. Sets the standard phage, including international, are used for phage typing of pathogens number of diseases (cholera, typhoid, salmonella, staph and other. Diseases). Bacteriophages are also used in genetic engineering as vectors carrying DNA segments, it is also possible the natural gene transfer between bacteria through some phage (transduction). Typically, such patients with antibiotics. But due to the fact that constantly mutating the bacteria have become resistant to antibiotics, their effectiveness is diminished in the recent years. Unlike antibiotics, which kill both harmful and healthy microflora of the organism, bacteriophages selective, fall under their effect only pathogenic bacteria. They penetrate only in certain cells and interact with their DNA, creating a lysogenic or lytic effect. Acting on microbes during lytic type, bacteriophages destroy them, allowing them to multiply rapidly.

In practice, the liquid used as bacteriophages and dry.