

## DNA Structure Study in Taxonomic Verification of Different Strains of *Pleurotus ostreatus* (Jacq.: Fr.) Kumm.

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In many countries of the world, edible mushrooms are used not only as foodstuff, but also as a valuable source for obtaining substances having medical-preventive value. Interest in mushrooms as objects of biotechnological research has increased recently in connection with the fact that they are not only food products but also producers of biologically active substances of medical significance.

It is known that *Pleurotus ostreatus* (Jacq.: Fr.) Kumm., which is widespread in many regions of the world, has antiviral and antitumoral effects. In this respect, correct identification and verification of this species in the mycelial stage is considered as a basis for effecting the collection of the mushroom culture. However, there is a danger of incorrect identification of objects obtained under various ecological conditions. The investigations of structural features of DNA, as well as the classical cultural-morphological signs, can be important criteria for correct identification.

The determination of the nucleotide content of the DNA has an important taxonomic significance and may be used as one of the fundamental molecular criteria in the systematic of organisms. Such studies rely on the ability to accurately identify strains of species. The nucleotide content of the DNA, being its integral characteristic feature, in comparison with other physico-chemical parameters of this macromolecule, may give a pre-

cise answer about the belonging of the organism to any taxonomic group. Thus, similarity of nucleotide content may be considered a definite criterion in the resolution of problems related to the systematics of the basidial macromycetes.

The work presented studies the structure of DNA, isolated from different strains of *P. ostreatus* of various ecological niches—from some regions of Armenia and Russia. Use of the method of thermal denaturation of DNA determined the GC content and the corresponding differential melting curves (DMC) DNA of both strains were obtained. The profiles of the DNA melting curves for mushrooms have identical character. These data have confirmed the high level of homology of the DNA investigated using the molecular hybridization method. Comparison of the above-mentioned parameters shows that the DNA of the investigated genomes has an identical structure.

These studies show evidence that the strains researched, from various ecological niches, belong to the *P. ostreatus*. The possibility of cultivation of the mentioned species on inexpensive substrates and the synthesis of valuable metabolites leads us to recommend this mushroom as high-quality raw material for application in pharmaceutical research and makes our investigations more interesting, apart from biotechnological aims.