

## **Pectines from the Bark of Coniferous Trees is Biologically Active Ingredient of Food Products for the Treatment-and-Prophylactic Purpose**

Galina P. Grigoriuk

*Central Scientific Research and Design Institute of Wood Chemical Industry,  
603603, GSP-703, Moskovskoye Shosse, 85, N.Novgorod, Russia; Fax: (8312) 41-36-90*

Considerable accumulation of radionuclides by the tissues and organs of the human body may induce appearing of disorders in immunic reactivity.

The main route of radinuclides entering the human body is a gastroentric tract, that is why the most important methods of radioisotopic intoxication control were the methods of sorption and enterasorption.

In this respect the preparations obtained on the base of natural pectines are of the most interest. In experiments with animals it was found that pectines from the bark of coniferous trees promote the clearance of caesium-137 from the body, featuring enterosorptive properties.

Besides, oncologists` raise of interest is noted for pectines of natural origin with the aim to use them for improving non-specific antitumoral resistance of the human body. In coloboration with Oncological Scientific Center the research was carried out on immunosimulating properties of pectines from the bark of pine, spruce, larch and a fir-tree on the model of formation cytollitic T-lymphocytes in a mixed culture of the spleen lymphocytes of oncological patients.

All pectines studied in a specific concentration featured immunosimulating properties. It was noted a markable inhibition of the tumoral cells of sarcoma 180. Antitumoral effect was absent in the case when pectines were introduced to animals with inactive tumoral cells. That is a direct demonstration of the fact, that antitumoral efficiency of preparations is defined to a great extent by stimulation of T-cellular immunity.

Taking into consideration the data on antitumoral and immunosimulating activity of pectines, as well as their sorptional and enterosorptional properties regarding radionuclides, the new formulations of the food products were developed with addition of pectines as a prophylaxis against cancer, as well as for prophylaxis and treatment of radioisotopic intoxication.