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METHOD OF ISOLATION AND PARAMETERS OF TOXICITY OF SAPROPHYTIC STRAINS *Bacillus* GENUS

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We report the method of isolation, characterization, toxicity of *Bacillus polymyxa* 102 KGU and *Bacillus subtilis* IMB 668. The definition of acute toxicity as one of major pharmacological indexes of drugs which have been based on two animal species with different routes of introduction showed that the searched *Bacillus* lectins relate to mild and low-toxic substances (LD50 for *Bacillus polymyxa* lectin 102 is 248 mg / kg, and for *Bacillus subtilis* lectin 668 is 89 mg / kg).

METHOD OF PREPARING AND BIOLOGICAL ACTIVITY OF PREPARATIONS ON THE BASE OF *Bacillus* LECTIN AND HETEROCYCLES

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Pronounced antitumor effect with high % of tumor growth inhibition was registered in Pliss lymphosarcoma for the following complexes: *Bacillus polymyxa* 102 – bis-derivative of 5-methyluracil (% inhibition of tumor growth – 62.8 %); *Bacillus polymyxa* 102 – bis-derivatives of 6-methyluracil (% inhibition of tumor growth – 62.5 %).

MAGNETIC NANOPARTICLES AND THEIR HYBRIDES

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The synthesis of magnetic nanoparticles has become a matter of great interest in recent times due to their

various advantageous properties and applications in a variety of fields. Magnetic nanoparticles and their bioconjugates have emerged as a promising material for biosensing that provide a useful complement to traditional sensing techniques. Biomolecules functionalized iron-based nanoparticles exhibit promising hybrid potential for use in advanced biosensors.

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MODIFICATION OF POTATO PEELING WASTE WITH BASE HYDROLYSIS AND SUBSEQUENT CATIONIZATION

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Potato peeling waste is a surplus material of food industry. Starch of the peeling waste could be utilized as an alternative source of native starch. In this study, we have investigated potato waste starch pretreated by base hydrolysis and its effect on the water solubility and cationization of starch. NaOH was used as base and glycidyltrimethylammonium chloride as the cationization reagent. Products were studied by HPLC-ELSD and NMR.

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