Study of biological properties of lacto- and bifidobacteria *in vitro.*

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Research purpose: study of antagonistic and cholesteraze activity of bacteria of genus *Lactobacillus* and *Bifidobacterium* with the purpose of creation on their basis of new probiotics having a special purpose setting.

Materials and methods: The cultures of lacto- and bifidobacteria, abstracted from the associative culture of the fermented biological material, were a research object: *Bifidobacterium bifidum* VK-1, *Bifidobacterium longum* VK-2, *Lactobacillus acidophilus* VK-3 IMB B-7279, *Lactobacillus casei* VK-4 IMB B-7280, *Lactobacillus bulgaricus* VK-5. Determined antagonistic activity by the method of the deferred antagonism, cholesteraze activity *in vitro* - by the method of Rudel.

Results: It is experimentally shown that all cultures of lacto- and bifidobacteria possess the wide spectrum of antagonistic activity and are the active antagonists of pathogenic microorganisms and also yeasts of genus *Candida*. Absence of antagonistic activity is shown between the studied cultures of lactic acid bacteria, that in a prospect enables to construct on their basis complex probiotics. Experimental information showed that ability to link a cholesterol in a different degree is inherent to all explored cultures. On the display of cholesteraze activity of culture it is possible to place in the following row: *Lactobacillus casei*>*Lactobacillus bulgaricus*>*Lactobacillus acidophilus* >*Bifidobacterium longum*> *Bifidobacterium bifidum*. Studied cholesteraze activity of different compositions of cultures also. Compositions appeared the highest active: *Lactobacillus casei*: *Lactobacillus bulgaricus*-73% and *Bifidobacterium longum*: *Bifidobacterium bifidum*- 69%, for the other cholesterol activity remained within the limits of 38-57%. The explored cultures can make basis of having a special purpose complex probiotics.

Stand lecture (poster).

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