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**Morphological and structural features of adenovirus particles by reacting with bacterial cell****Anna Golovan, S I Voychuk, I L Garmasheva, O Yu Povnitsa, L B Bilyavska, O N Vasilyuk, K S Naumenko and Yu B Pankivska**  
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Antiviral drugs mainly targeted onto prevention of viral synthesis within the host cells or elimination of it enters into the cell through induction of natural defense mechanisms, among which are immune response and interferon synthesis. Recently, it was suggested that human microbiota may play a role in virus infection. Human viruses did not infect bacteria cells, but this does not exclude a possibility of bacteria participation in the virus propagation into the host cells. An interaction of lactic acid bacteria with human adenovirus serotype 5 (HAdV-C5) was studied. We used strains of bacteria some of which are normally can be found in human intestine, while others are supplied with various milk products: *Lactobacillus plantarum* (56 strains), *Enterococcus* spp. (23 strains), *Leuconostoc* spp. (14 strains), *Lactococcus lactis* (3 strains) and *Pediococcus* spp. (1 strain). After 1 h of interaction of viruses (VPs) with bacteria the samples were examined with electron microscopy. In 17% of cases there were no VPs found that can suggest their total destruction, but in other cases the VPs were clearly seen performing well preserved viruses and viral proteins. The direct viral adhesion to the surface of bacteria was noticed for 23% of the strains, while in other cases the VPs were associated with extracellular matrix structures or as the free particles. The current research is one of the first steps in understanding the role of microbiota in the virus infections development. It showed that various strains of the same bacterial species can cause opposite effects and lead both to the virus degradation or preservation and, therefore, can prevent or help virus to enter the human cells.

**Biography**

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