ANTIVIRAL ACTIVITY OF LIPOPOLYSACCHARIDES OF Pseudomonas chlororaphis subsp. aureofaciens

L. D. Varbanets ¹, S. L. Rybalko ², D. B. Starosyla ²
The aim of the study was to investigate the ability of lipopolysaccharides of two strains of *Pseudomonas chlororaphis* subsp. *aureofaciens* to inhibit *in vitro* the reproduction of human viruses: influenza A/FM/1/47 (H1N1), herpes simplex type 2 and bovine diarrhea, which is used as a model of hepatitis C virus, as well as to suppress hepatitis C virus production in model system of cells transfected with cDNA of this virus. It has been established that for both lipopolysaccharides in three types of cultures (MDCK, Vero and MDBK) the toxicity is not manifested even in a concentration of 100.0 μg/ml, and decreasing in infectious virus titer more than by 2.0 log TCD50 (ED99) was already achieved at concentrations of 1.55 mg/ml. Selectivity indexes determination of lipopolysaccharides preparations against the influenza A/FM/1/47 (H1N1) virus, herpes simplex virus type 2 and bovine diarrhea virus shows that lipopolysaccharides of *P. chlororaphis* subsp. *aureofaciens* UCM B-306 and UCM B-111 are effective inhibitors of investigated viruses reproduction: selectivity index is at least 64. In the model of Jurkat cells transfected with human hepatitis C virus cDNA, viral RNA loading was determined in cells treated with lipopolysaccharides of *P. chlororaphis* subsp. *aureofaciens*. The results of the studies indicate that when lipopolysaccharides of both strains are administered, the production of the hepatitis C virus is completely inhibited.

**Keywords:** *Pseudomonas chlororaphis* subsp. *aureofaciens* lipopolysaccharides, influenza, herpes and hepatitis C viruses.


