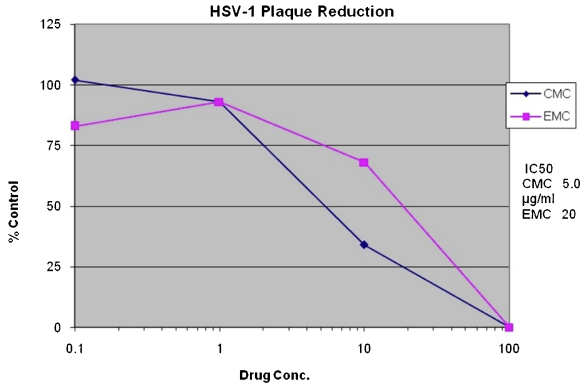

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Antiviral Activity of Carbohydrate-containing Biopolymers of *Pseudomonas chlororaphis* subsp. *aureofaciens*

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Saprophytic soil bacteria *Pseudomonas chlororaphis* subsp. *aureofaciens* produce a wide set of antibacterial and antifungal substances. Strains of this species *UCM** B-*111* and *UCM* B-*306* are the components of biopreparation gaupsin which is used in Ukraine as a tool of plants protection from fungal and bacterial diseases. We have shown that gaupsin inhibited *in vivo* for 97-80% the development of tobacco mosaic virus (TMV) strain U1 in *Datura stramonium*, *Nicotiana tabacum* and *Nicotiana sanderae* plants during three vegetation seasons. Lipopolysaccharides (LPS) obtained from cells of both *Pseudomonas chlororaphis* subsp. *aureofaciens* strains using Westfal-Yann water-phenol method proved to be highly active antiviral agents. Their antiviral activity was 98–100% at concentration 10–1 mg/ml, 57–69% at 0.1, 43–44% at 0.01 and 14–11% at 0.001 mg/ml. It is interesting that LPS isolated from other bacterial species (*Rahnella aquatilis*, *Ralstonia solanacearum*) were not active against TMV or even stimulated the the necrosis formation. The cultural fluids of strains B-*111* and B-*306* grown in industrial or semisynthetic medium just as the thermostable water-soluble preparations isolated from fermentation broth by evaporation, dialysis and liophylization were also active against TMV. They inhibited TMV infectivity for 99–97% in concentration 10 mg/ml; the antiviral effect reduced to 20–24% at concentration 0.1 mg/ml. Only traces of proteins and nucleic acids and small amount of neutral monosaccharides (4–25%) have been found in LPS and extracellular polysaccharides which allows to suppose the presence of significant quantity of uronic acids in their composition. This originality of monosaccharide composition of studied preparations may be probably responsible for their unique antiviral effect.
*Ukrainian Collection of Microorganisms

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European Training Network on (+)RNA Virus Replication and Antiviral Drug Development

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Antiviral drug development requires a detailed understanding of virus replication and effective translation of this knowledge into drug discovery. Europe needs well-trained experts with multidisciplinary skills to advance this field. However, few, if any, European training institutes have the broad know-how required to provide such a comprehensive training programme. The EUVIRNA partnership aims to fill this gap with the proposed EUVIRNA training programme, which is a Marie Curie Initial Training Network (ITN) funded by EC FP7 (FP7-people-2010-ITN). The EUVIRNA partnership consists of six outstanding European academic partners and four industrial partners (Tibotec-Virco, Pike Pharma GmbH, Riboxx GmbH, and Okapi Sciences NV), and an associated partner specialized in education (Virology Education). All EUVIRNA partners are recognized leaders in their field, ensuring state-of-the-art training possibilities, and their skills are highly complementary. EUVIRNA aims to introduce 17 Early Stage Researchers (PhD students) and 3 Experienced Researchers (postdoctoral researchers) to state-of-the-art knowledge and technology applied in molecular virology and antiviral therapy, with both local and network-wide training activities. Individual research projects, research training workshops and intersectoral secondments will be supplemented with complementary skills courses to improve career development and perspectives. The industrial partners are actively involved in the entire programme, and will furthermore organize a 1-week industry-oriented conference aimed at further bridging the gap between academia and industry. Thus, EUVIRNA offers talented researchers a multidisciplinary and intersectoral training programme and prepares them for a future leading role in European molecular virology research and antiviral drug development.

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Ellagitannins as New Highly Efficient Inhibitors of Herpes Simplex Virus Replication and Synergists of Acyclovir

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Nonahydroxyterphenoyl-bearing *C*-glucosidic ellagitannins castalagin, vescalagin and grandinin possess a pronounce inhibitory effect on the replication of acyclovir (ACV)-sensitive strains of HSV types 1 and 2 in MDBK cells. An especially high activity against HSV-1 manifested castalagin, its SI attaining values higher than 1000, comparable to or exceeding SI values of ACV. Moreover, the three ellagitannins inhibited markedly the replication of ACV-resistant strains of HSV-1 and HSV-2 (casta-