tual screening of new compounds possessing antiviral activity towards coxsackievirus B3 97-927 with high selectivity.

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Studying of Anti-Epstein–Barr Virus Activity of Amizon and their Derivative

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During last decades more and more attention is given to creation of preparations for pathogenetic therapy with the polyvalent pharmacological action. One of successful elaborations of the Ukrainian pharmacologists is the new non-narcotic analgesic Amizon with expressed antiphlogistic, antipyretic, interferon gene and immunomodulatory properties. Amizon—the derivative of isonicotinic acid (*N*-metyl-4-benzyl urea-pyridinit iodidum). The objective of the present investigation was to study the activity Amizon, as well as derivative, in which structure there is no iodine, against Epstein–Barr virus. As a model of EBV-infection in vitro we used the line of lymphoblastoid B-cells Raji. To study the cytotoxicity of investigated drugs they were entered into the culture of not infected cells in concentration from 0.1 up to 3000 μg/ml. In 48 h there was conducted the MTT-analysis of the investigated samples. It was shown, that the concentration that oppressed proliferative activity of cells on 50% (CD50), for Amizon has compounded 840 μg/ml, and for its derivative—2100 μg/ml, accordingly. The anti-virus activity was determined by a PCR method, using "Amply Sens 100 R" system (Russia). Drugs were investigated in concentrations of 0.1, 0.5, 1, 5, and 10 μg/ml. The analysis of obtained data allowed to determine concentrations, which oppressed the replication of the virus on 50%, that was shown by reduction of the number of genomic equivalents of EBV DNA on a cell testified. ED50 for Amizon has compounded 0.1 μg/ml, for its derivative—5 μg/ml. Thus, the low toxicity of investigated drugs was shown and their effective doses were determined. Proceeding from the index of selectivity that is 8400 for Amizon, 400 for its derivative, it is possible to make a conclusion about their availability for the further researches as of drugs that are active against an Epstein–Barr virus. Furthermore obtained data testify to importance of presence of iodine in structure of drug, as, apparently from the received data, the activity of derivative, not containing iodine, is below more than in 20 times.

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Development of Resistance to Oxoglaucine in Poliovirus Type 1 (LSc-2ab) and the Six Coxsackie B Viruses

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Up to date there is no safe and effective enterovirus specific drug available for clinical use. Still there is a clear need for continued development of new inhibitors of enterovirus replication. Oxoglaucine has proven its promising broad-spectrum antienterovirus effect in a pilot study of ours. It exerts a strong antiviral effect against the replication of poliovirus type 1and enterovirus B species. The selectivity ratio in most cases is above 100. Here the development of resistance to oxoglaucine in the case of poliovirus type 1(LSc-2ab) and the six coxsackie B viruses is studied in vitro. The tested viruses develop rapidly phenotypic signs or resistance. A correlation is established between the sensitivity to oxoglaucine and the necessary number of serial passages for the development and selection of resistant virus mutants. Viruses that have revealed the greatest sensitivity to the antiviral effect of oxoglaucine develop most rapidly resistant mutants. The resistant virus reaches high infectious titers in the presence of the compound. Reversion to sensitivity occurs when the selective oxoglaucine pressure is diminished. The obtained results serve as a proof for the specific and selective antienterovirus activity of oxoglaucine and serve as a basis for further studies on its mode of action.

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Efficacy of Therapeutic Intervention with an Oral Ether Lipid Analogue of Cidofovir (CMX001) in a Lethal Mousepox Model

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In the 21st century we are faced with the potential use of natural or recombinant VARV and MPXV as biological weapons, and the emergence of human MPXV. Such occurrences would require therapeutic and prophylactic intervention with antivirals. Cidofovir, an antiviral approved for the treatment of cytomegalovirus retinitis in AIDS patients, has activity against poxviruses, but must be administered intravenously and is associated with nephrotoxicity. An ether lipid analogue of CDV, CMX001 (HDP-CDV), has excellent oral bioavailability, minimal nephrotoxicity, and potent in vitro and in vivo antiviral activity against poxviruses. Using the mousepox model, we have staged the course of disease with biomarkers that include viral DNA copies in the blood, core body-temperature, blood sera clinical chemistry, blood cytokine changes and blood CD45+ cell changes. These biomarkers have been used to optimize