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Effect of recombinant human and mouse interferons on herpes simplex virus type 1 replication *in vitro* and *in vivo*. U. Wintergerst,[1] J.D. Gangemi[2], R.J. Whitley[3], E.R. Kern[3] and S. Chatterjee[3]. [1]University Children's Hospital, Munich, Germany; [2]Clemson University Biomedical Alliance, Clemson, SC, USA; and [3]University of Alabama School of Medicine, Birmingham, AL, USA.

Pretreatment of mouse cells with either mouse or recombinant hybrid human B/D interferon (IFN) significantly blocked the release of infectious herpes simplex virus type 1 (HSV-1) from treated cells. The block in replication was not due to an effect on attachment of HSV-1 to the target cells or to toxic effects of IFN on these cells. Immunoblot analysis showed that mouse IFN reduced both the expression of virus-specific proteins in treated cells and the release of extracellular virus. In contrast, B/D IFN had no effect on the expression of viral proteins in treated cells, and electron microscopy of virus-infected cells revealed formation of nucleocapsids within the nucleus of IFN-treated cells. However, the expression of glycoproteins B and D was reduced in B/D IFN-treated cells. These results suggested that mouse IFN blocked HSV-1 replication at an early stage whereas, B/D IFN inhibited HSV-1 replication at a late stage in virus morphogenesis. In addition, treatment of HSV-1-infected mice with B/D IFN (2 X 100,000 IU/day) reduced the mortality from 100% to 67%, whereas, mouse IFN had little effect on the survival of HSV-1-infected mice. In combination with acyclovir (ACV), B/D IFN reduced the mortality by an additional 20% when compared to the treatment with ACV alone.

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ANTIVIRAL PROPERTIES OF STERICALLY HINDERED PHENOL DERIVATIVES. Andreeva O.T., Votyakov V.I., Zhelobkovich V.E., Petrikevich D.K., Kunevich E.C., Timoshchuck V.A., Shadyro O.I. Byelorussian Research Institute for Epidemiology and Microbiology Minsk, Republic of Belarus

Antioxidants are known to demonstrate the broad spectrum of biologic activity, We studied the antiviral properties of alkyl derivatives of phenols, which are structurally similar to tocopherol (I group), and of butylpyrocathechol derivatives (II group). White inbred mice (body weight 7-10gm.) with experimental neuroinfection of HSV-1 were used in our investigations. Substances were administered in dose 200,0-0,1 mg/kg in 3 hours post infection once a day during 7 days. As a result, compounds efficiency was identified in both groups, though they differed in intensity and degree of antiviral effect. All 5 compounds of the Ist group reduced lethality of treated animals by 56,2-38,5% and their CTI was 10-20. Only one compound of this group displayed the activity in all tested doses with CTI being more than 200. All tested substances of the IId group also protected the animals from death. However, their antiviral effect turned out to be more intensive both in lethality reduction (95,0-57,5%), and in CTI index: for 2 from 6 compounds it made up 1000, and for the rest it was 100. Thus, it was demonstrated that derivatives, obtained on the basis of sterically hindered phenols, manifest antiviral properties and they are recognized as perspective antiviral substances.