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Effect of Zn-complexes on HSV-2 Infection *in vitro*

Varadinova, T.[1], S.Shishkov [1], P.Bontchev[2], C.Nachev[3], and N.Tjufekchiev[1]
1-Faculty of Biology, 2-Faculty of Chemistry; University of Sofia; 3-Higher Medical Institute; Sofia; Bulgaria

The inhibitory effect of complexes of **Zn(II)** with picolinic and asparaginic acids [**$Zn(pic)_2$** and **$Zn(asp)_2$**] on HSV-1 infection was previously reported by us (J. Chemotherapy,1993,5,1,3-9).

However, **HSV-2** infection in HEL cells was also affected.Thus,after the action with 10, 1 and 0.1μM of an each complex the infectious titre was reduced with 1.3, 1.2 and 1.1 lg units respectively. Furthermore, a sharply increased amount of empty viruses and L-particles in the presence of both complexes was detected by electron microscope. The prophylactic effect of **$Zn(pic)_2$** and **$Zn(asp)_2$** expressed in 24hrs supplemented cells was detected by a reduction of infectious titre with 90% and 99% respectively. In addition, a ligand-dependent effect was manifestated by: 1)Restoration of viral infectivity after influence with 10, 1 and 0.1μM of **$Zn(pic)_2$** with 10%, 20% and 50% respectively, while after the action with **$Zn(asp)_2$** the viral titre was reduced with 20%, 75% and 100%; 2)Irreversible inhibition of the free virus being in a contact with **$Zn(asp)_2$** for 2-6hrs and a reversible effect of **$Zn(pic)_2$** after 30min contact; 3) Absence of gB, gC and gE after influence with **$Zn(asp)_2$** only was obtained by immunoblot test;

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Effect of human recombinant and recombinant hybrid alpha-interferons on the replication of herpes simplex virus type 1 in human fibroblast and neuroblastoma cells. S. Chatterjee[1], P. Burns[1], J.D. Gangemi[2] and R.J. Whitley[1]. [1]Department of Pediatrics, University of Alabama School of Medicine, Birmingham, AL, [2]Clemson University Biomedical Alliance, Clemson, SC; USA.

Pretreatment of human fibroblast and human neuroblastoma cells with human recombinant alpha-interferon (IFN) B or D or recombinant hybrid alpha - IFN B/D demonstrated that alpha-IFN B significantly inhibited the release of infectious herpes simplex virus type 1 (HSV-1) from treated cells. However, IFN B was more effective in human fibroblast cells than in human neuroblastoma cells. Immunoblot analysis showed that IFN B inhibited the expression of HSV-1 nucleocapsid proteins and glycoproteins in human fibroblast cells. In contrast, IFN B had no significant effect on the expression of nucleocapsid proteins, although the expression of glycoproteins was reduced in IFN B-treated human neuroblastoma cells. Pretreatment of neuroblastoma cells with staurosporine, a selective inhibitor of protein kinase C (PKC) prior to the addition of IFN B, blocked the inhibitory effect of IFN on the replication of HSV-1 in treated cells. In contrast, staurosporine had no effect on the inhibitory action of IFN B in human fibroblast cells. Consistent with this observation, addition of IFN B also resulted in an expression of PKC specifically in IFN-treated human neuroblastoma cells. These results suggest that the expression of PKC is an important step in the IFN B-treated cells of neuronal origin.