

Inhibitory effect of alloferons in combination with human lymphocytes on human herpesvirus 1 (HHV-1) replication in vitro.

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Streszczenie

Over the past two decades there has been intense study of compounds from vertebrates, microorganisms, plants, mushrooms, marine sponges, worms, etc. as well as insects in terms of their antiviral activity. Insects produce a variety of biologically active peptides. One of them is alloferon. The in vitro and in vivo experiments demonstrate that synthetic alloferon has an immunomodulatory properties. It was reported that alloferon and its analogues (alloferon I and II) have antimicrobial properties, as well. The aim of this study was to evaluate in vitro the effect of alloferon I and II, either alone or in combination with human lymphocytes, on human herpesvirus type 1 (HHV-1) McIntyre strain replication. On the base of results we can conclude that alloferon I and II inhibit the replication of HHV-1 McIntyre strain in HEp-2 cells. Enhanced antiviral activity was observed when infected cells were treated with alloferons and unstimulated or phytohemagglutinin PHA-stimulated lymphocytes simultaneously. After application of alloferons and PHA-stimulated lymphocytes to the HHV-1 infected HEp-2 culture, the mean HHV-1 titer reduction for alloferon and II, when used at the highest dose—400µg/mL, were 3.69 and 3.27log₁₀/TCID₅₀/mL, respectively.

Słowa kluczowe

alloferon, antiviral activity, Herpesvirus, HHV-1, Insect peptides, Virus replication

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