Further studies on the antiviral activity of alloferon and its analogues.

Autorzy

Mariola Kuczer

A. Midak-Siewirska

Renata Zahorska

M. Łuczak

Danuta Konopińska

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Streszczenie

The subject of our studies was the synthesis, biological evaluation, and conformational studies of insect tridecapeptide alloferon (H-His-Gly-Val-Ser-Gly-His-Gly-Gln-His-Gly-Val-His-Gly-OH) and its analogues such as: [des-His(1)]-, [Lys(1)]-, [Arg(1)]-, and [Ala(1)]-alloferon. These peptides were synthesized to check the influence of the His residue at position 1 of the alloferon chain on its antiviral activity. Two aspects of the biological effects of these peptides were determined: (i) the cytotoxicity in vitro in the Vero, LLC-MK2, and HEp-2 cell lines, and (ii) the antiviral activity in vitro in respect to DNA and RNA viruses. We found that alloferon inhibited the herpes virus multiplication and failed to affect the coxsackie virus replication, whereas [Lys(1)]-alloferon exhibited a high inhibitory action towards both viruses. Moreover, the peptides did not show any cytotoxic activity against the Vero, LLC-MK2, and HEp-2 cells. The preliminary circular dichroism conformational studies showed that the peptides investigated seem to prefer an unordered conformation.

Słowa kluczowe

alloferon, Insect peptides, Human Herpes Virus, Coxsackie B2 virus, antiviral activity

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