205

Broad Spectrum Antiviral Activities of sulfated Mucopolysaccharides of A marine Pseudomonas Strain. S. Shigeta[1], S. Mori[1], M. Baba[1], K. Sudo[2], W. Watanabe[2], and K. Okutani[3]. Department of Microbiology, Fukushima Medical College, Fukushima 960-12[1], Rational Drug Design Laboratories, Fukushima 960-12[2], Faculty of Agriculture, Kagawa University, Kida, Kagawa 761-07[3], Japan.

Sulfated derivatives prepared by a fucosamine-containing polysaccharide from a marine Pseudomonas sp., showed strong antiviral activities against several enveloped viruses. The sulfated polysaccharide was partially purified with DEAE cellulose column elution using 2M NaCl and designated as PSMPS. The EC_{50} (μg/ml) of PSMPS against HIV-1, influenzavirus (FLUV) A and B, respiratory syncytial virus (RSV) and herpes simplex virus (HSV) type 1 were 0.4 to 1.9 (HIV-1), 0.35-2.2 (FLUV-A), 2.0-4.0 (FLUV-B), 8.7 (RSV), and 0.5 (HSV-1) repcetively. PSMPS was found to be homogeneous in electorophore sis, had a molecular weight of $5X10^5$. PSMPS consisted of GalNAc, Gal, GlcNAc, Ala and GalUA at a molar ratio of 2:1:1:1:0.5. The PSMPS has a structure with a backbone chain of GalUA-GlcNAc-GalNAc and a side chain of GalUA-Gal-GalNAc. The terminal galacturonic acid in the side chain linked a D-alanine by an amide linkage. The sulfation rate of the molecule was 5.4% and lesser than those of dextran sulfate and heparin. One of the mechanism of anti-HIV activity of PSMPS is dueto the inhibition of adsorption of virus to cell membrane. The possible other mechanism of antiviral activity of PSMPS is under investigation.

206

Synthesis and Anti-HRV Activity of New Disoxaril Analogues. P. La Colla^, P. Obino^, M. Artico°, A. Mai°, S. Massa°, F. Corelli§, A. Loi^, A. De Montis^. Depts. of ^Biologia Sperimentale, Università di Cagliari, °Studi Farmaceutici, Università di Roma, §Farmaco Chimico Tecnologico, Università di Siena, Italy.

A series of compounds structurally related to disoxaril have been synthesized and tested for anti-rhinovirus activity. These analogues are characterized by :

-an oxazoline ring (or a carboxyethyl group) linked to the phenoxy moiety.

-the presence of a ketocarbonyl group in the five or seven membered aliphatic chain;

-unsubstituted or substituted pentatomic heterocycles (thiophene, pyrrole, furan).

Among these compounds, the 5-methylthiophene derivatives emerged as the most potent inhibitors of adsorption / uncoating of numerous HRV serotypes. The introduction of methyl or ethyl groups in the oxazoline ring increased the inhibitory potency of 5-methylthiophene derivatives, irrespective of the lenght of the aliphatic chain. Similarly to disoxaril derivatives, the antiviral activity of the (S) enantiomers was consistently higher than that of the (R) enantiomers.

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