

Poster Presentations – Field A1. Pharmacology

[PA1-1] [10/18/2001 (Thr) 14:00 – 17:00 / Hall D]

Synthesis and Antiviral activity of Azido or Amino Substituted Acyclic Nucleosides

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HCMV(Human cytomegalovirus) is lethal virus, which causes blindness to AIDS patients. Genciclovir is a nucleoside analogue and has been a drug of choice for HCMV although it exhibited many problems such as low solubility. Since then, a number of compounds have been synthesized and evaluated for anti-HCMV activity in order to find new anti-HCMV drugs to overcome side effects of genciclovir. Based on the structure of genciclovir, novel acyclic nucleoside analogues to introduce N3 or NH2 on the acyclic moiety were synthesized via acid-catalyzed 1,4-addition as a key step. Synthesis and antiviral activity of our novel nucleoside analogues will be presented in detail.

[PA1-2] [10/18/2001 (Thr) 14:00 – 17:00 / Hall D]

Effect of Dopamine Agonists and Antagonists in the Immunological Aspect

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Dopamine receptor-related diseases such as Parkinson's disease or Schizophrenia require a long-term treatment with dopamine drugs, and it has been suggested that their immune functions are seriously altered. In this study, we tested whether dopamine drugs have any effect on the degranulation of mast cell (RBL-2H3) and nitric oxide production from macrophage cells (RAW 264.7), which presumably represent key aspects of the allergic and inflammatory reactions respectively. Among dopamine agonists (Dopamine, Bromocriptine, 7-OH-DPAT) and antagonists (Sulpiride, U99194A) tested, bromocriptine and 7-OH-DPAT showed potent inhibition of IgE receptor-mediated mast cell degranulation (IC50 value, 10 μ M). On the other hand, LPS-induced nitric oxide induction from RAW 264.7 cell was markedly reduced by Bromocriptine and Dopamine (IC50 value, 10 μ M). In case of nitric oxide production, Bromocriptine inhibited the NOS expression in a dose- and time-dependent manner. Several signaling components of IgE receptor such as Syk, PLC γ 2, MAPK, and M2 type pyruvate kinase were tested. However, the biochemical targets of dopamine drugs for the inhibition of mast cell degranulation were not clear. These results show that long-term uses of dopamine drugs could bring in immunological problems as well.

Dopamine drugs seem to inhibit the nitric oxide production from macrophages by directly inhibiting NOS expression, and prevent mast cell degranulation through mechanisms not identified yet.

[PA1-3] [10/18/2001 (Thr) 14:00 – 17:00 / Hall D]

Specificity and durability in the inhibition of mucin release from airway goblet cells by polycationic peptides