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7-Acylamino-3-(isoxazolylmethylthio)-3-cephem-4-carboxylic acids or their pharmacologically acceptable salts were synthesized and their antibacterial activities against Gram-positive and Gram-negative were inspected. We discovered that their analogs exhibited a wide spectrum against Gram(+) and Gram(-) including MRSA.
We will describe the relationships between the structure and activity of these novel Cephalosporins with 3-isoxazolylmethylthio Derivatives.

[PD1-6] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

The Development of New Carbacephem Antibiotics

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Carbacephem is one of β-lactam antibiotics having a broad spectrum of antibacterial activity. So numerous methods for constructing carbacephems have been reported. In this study, we describe a new route to the synthesis of trans-carbacephem moiety and derivatives. The total synthesis of trans-carbacephem was starting from trans-oxazoline. Key stages in the strategy involved (i) the use of hydrogenation gave a cleavage of trans-oxazoline (ii) formation of β-lactam ring was prepared using the Mitsunobu reaction (iii) six-membered ring of carbacephem was prepared by a Dieckmann-condensation.

[PD1-7] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Synthesis and antiviral activity of novel exomethylene cyclopropyl nucleosides

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Some novel exomethylene cyclopropyl nucleosides were synthesized as analogues of Synadenol derivatives to find potent antiviral agents. The intermediate, Feist's acid was prepared from α-ethy acetoacetate by three steps. The key cyclopropyl compound was obtained via esterfication, reduction, and the partial protection by using TBDPS-Cl, bulky protecting group which was activated by tosylation. Its condensation with pyrimidine and purine bases in the presence of potassium carbonate and a crown compound and its deprotection by using n-Bu4NF gave their corresponding cyclopropyl nucleosides. All the synthesized compounds were evaluated for antivira activity. However, none of them showed any antiviral activity against HSV-1, HSV-2, HCMV, HIV-1, HIV-2, and HBV up to 100 μM.

[PD1-8] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Synthesis and Biological Properties of 7H -Pyrazolo[3,4-d]pyrimidine-Derived Antifolates As Antitumor Agents

Jahng, Y, Park, JG, Yu JW, Kim, HH, Yang, SI.