

Focal Point: Biotechnology

Bioproducts and Bioprocesses

Date and Location

Tuesday, November 19, 1996, from 9.30 to 17.00 h
Two half-day sessions
Convention Center Basel

Summary

Biotechnology uses micro-organisms, higher cells or parts thereof (e.g. enzymes) in order to produce a great variety of useful substances which are hardly or not at all accessible by chemical methods. The objective of this one-day meeting is to review significant applications and technologies in this field.

The manufacture of important bioproducts will be summarized in the morning session (Chairman: Prof. Bailey). The production of microbial primary and secondary metabolites with biological activities and the production of therapeutic proteins by recombinant micro-organisms will be discussed as well as enzyme-catalyzed reactions (biotransformations) leading to optically active fine chemicals.

The afternoon session is devoted to bioprocesses (Chairman: Prof. von Stockar). State-of-the-Art technologies leading to safe and efficient processes for the manufacture of valuable bioproducts will be presented. Cell culture technologies, metabolic activity control, protein folding methods and biosafety issues will be discussed.

Program

Bioproducts:

- Tuesday, November 19, 1996 from 9.30 to 12.30 h
- 'Biotransformations in the manufacture of fine chemicals'
Prof. Dr. K. Faber, University of Graz (Austria)
 - 'Microbial production of amino acids and vitamins'

Prof. Dr. H. Sahn, Forschungszentrum Jülich (Germany)

- 'Antibiotics and other secondary metabolites: traditions and new horizons'
Prof. Dr. J.E. Bailey, ETH, Zürich (Switzerland)
- 'Production of recombinant therapeutic proteins'
Dr. E. Hochuli, F. Hoffmann-La Roche AG, Basel (Switzerland)

Bioprocesses:

Tuesday, November 19, 1996 from 14.00 to 17.00

- 'Bioprocess safety: a challenge for science and politics'
Dr. M. Küenzi, Ciba AG, Basel (Switzerland)
- 'Successful *in-vitro* folding of inclusion body proteins'
Prof. Dr. R. Rudolph, Martin Luther University, Halle-Wittenberg (Germany)
- 'Next century cell factories'
Prof. Dr. J. Tramper, Agricultural University, Wageningen (The Netherlands)
- 'Metabolic activity control by multiple limitations'
PD Dr. T. Egli, EAWAG, Dübendorf (Switzerland)
- 'Bioprocess integration using hydrophobic porous membranes'
Prof. Dr. U. von Stockar, EPF, Lausanne (Switzerland)

Chairmen

Prof. Dr. J.E. Bailey (Bioproducts), Institut für Biotechnologie, ETH, Zürich
Prof. Dr. U. von Stockar (Bioprocesses), Institut de génie chimique, EPF, Lausanne

Organized by

Dr. H.G. Leuenberger, F. Hoffmann-La Roche AG, Basel

Focal Point: Chemical Research

Protein Structures as Templates for the Design of New Drugs

Date and Location

Friday, November 22, 1996, from 9.30 to 17.00 h
Convention Center Basel

Key Goals

The aim of the one-day conference on protein structures as templates for the design of new drugs is to demonstrate the State-of-the-Art of research in the area of proteins as targets in biological approaches to rational design. It should bring together the academic and industrial communities interested in this field. It should also make this field of research more widely known and hopefully induce more effort in this area.

Summary

Structure-based drug design has been most commonly employed to develop enzyme inhibitors. Since the structure of the active site of an enzyme is usually well understood and relatively rigid, the act of tailoring an organic molecule to precisely fit the enzyme's active site is a technically demanding, but relatively straightforward procedure.

There is a great potential of therapeutic target proteins that are at least equally attractive as enzymes, but a perception exists that these targets are less favorable for effectively use as design templates. It is difficult to leave the well-known enzyme inhibitor research field to invest more effort in an even more challenging area, without the security of a rapid success.