CHIMIA 50 (1996) Nr. 10 (Oktober)

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. Sahm*, 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.

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10.00 Opening of the one-day conference.

10.05 Introduction by the Co-Chairman *Manfred Schulz*, Department of Immunology, *Sandoz Pharma Ltd.*, Basel

10.15 'Ligand Discovery Using Three-dimensional Protein Structures'
Malcolm Walkinshaw, Department of Biochemistry, The University of Edinburgh, Edinburgh, United Kingdom

11.15 'NMR Structures of Biological Macromolecules in Biomedical Research'
Kurt Wüthrich, Swiss Federal Institute of Technology Zürich, Institute for Molecular Biology and Biophysik, Zürich, Switzerland

12.15 Lunch break

14.15 'Design and Synthesis of Inhibitors of Protein Processing Enzymes'
Daniel H. Rich, University of Wisconsin, Department of Medicinal and Organic Chemistry, Madison, USA

15.15 'Design of Superactive and Selective Ligands for μvb3-Integrin'
Horst Kessler, Technische Universität, München, Institute for Organic Chemistry and Biochemistry, Garching, Germany

16.15 'Adhesion Molecules as Drug Targets. The Case of CD2'
Ellis L. Reinherz, Department of Pathology and Medicine, Harvard, Medical School and the Laboratory of Immunobiology, *Dana Farber* Cancer Institute, Boston, USA

Chairman
R.M. Wenger, *Sandoz Pharma Ltd.*, Department of Immunology, Basel

Organized by
New Swiss Chemical Society, section Chemical Research