

Schweizerische Gesellschaft für Mikrobiologie *Berichte der 44. Jahresversammlung*

Société Suisse de Microbiologie *Comptes rendus de la 44^e réunion annuelle*

Società Svizzera di Microbiologia *Rendiconti della 44^a sessione annuale*

Swiss Society of Microbiology *Reports of the 44th annual meeting*

Geneva, 11–13 April 1985

The Society Prize 1985

The Society Prize has been allocated to Dr Jon Duri Tratschin, Institute for Hygiene and Medical Microbiology, University of Bern, CH-3000 Bern, Switzerland

Main Lectures

Prof. Luc Montagnier, Institut Pasteur, Paris, France

Prof. J. E. Davies, Biogen SA, Geneva, Switzerland

Dr H. Mahler, Director-General WHO, Geneva, Switzerland

Prof. J. Skehel, National Institute for Medical Research, London, GB

Main Lectures

Role of lymphadenopathy associated virus (LAV) in the pathogenesis of the acquired immunodeficiency syndrome (AIDS)

L. Montagnier

Viral Oncology Unit, Institut Pasteur, Paris, France

Epidemiological data collected in 1981 and 1982 suggested that AIDS was transmitted by an infectious agent present in blood and sperm. AIDS cases observed in hemophiliacs receiving commercial filtered preparations of factors 8 and 9 indicated that this infectious agent could be a virus. Indeed a new type of human retrovirus, LAV, first isolated from patients with persistent lymphadenopathy and thereafter from patients with frank AIDS, is now considered as the primary etiologic agent of the disease.

In the absence of direct reproduction of the disease by inoculation of the virus into animals, indirect evidence strongly suggests a causal relationship:

- 1) Frequent isolation of the same type of virus from all groups of patients with AIDS or AIDS-related complex (homosexuals with multiple partners, hemophiliacs, i.v. drug users, Haitians, Africans) and unfrequent isolation from patients with other diseases or from healthy individuals of the general population.
 - 2) Documented cases of transmission of the virus via blood transfusion.
 - 3) Tropism of the virus for the T⁴⁺ subset of lymphocytes with induction of cytopathic effect.
 - 4) Prevalence of antibodies against viral proteins in AIDS and ARC patients and also in asymptomatic carriers of the virus belonging to the high risk groups.
 - 5) Confirmation of these data by several laboratories.
- Acute LAV infection is most frequently inapparent or

may eventually result in signs described as the AIDS-related complex. The occurrence of AIDS is relatively rare and often requires a long incubation period, which allows the interplay of cofactors, such as repeated antigenic stimulation and a terrain of immune depression. Analogy with the slow retroviruses (lentiviruses) is suggested by some similar aspects of the pathogenicity (neurological signs) and the structure of the AIDS retrovirus itself. LAV is clearly the prototype of a new group of human retroviruses, not related to human leukemia viruses (HTLV I and II).

Biotechnology 1985: from proteins to small molecules

J. E. Davies

Biogen S. A., CH-1227 Carouge/Geneva

Biotechnology is one of the oldest industries and certainly represents one of the first applications of science to the benefit of mankind.

There are essentially three areas of technical development which have led to the explosion of gene technology approaches to problems of biotechnology:

- 1) Gene transfer
- 2) Gene expression
- 3) Gene manipulation

Standard cloning procedures have been refined to the extent where any activity, protein or coding sequence may be detected. We are in a position to find gene products that were unsuspected and that may have novel physiological activity by using the network of routes available in gene cloning methodology.

A large number of mammalian proteins have been cloned and expressed and already the pharmaceutical applications of this genetic engineering approach have become apparent. The production of mammalian proteins is a relatively 'easy' goal for recombinant DNA; it is only necessary to clone and express single genes and inter-