Schweizerische Gesellschaft für Mikrobiologie *Berichte der 43. Jahresversammlung*

Société Suisse de Microbiologie *Comptes rendus de la 43e réunion annuelle*

Società Svizzera di Microbiologia *Rendiconti della 43a sessione annuale*

Swiss Society of Microbiology *Reports of the 43rd annual meeting*

Lugano, 26–28 April 1984

The Society Prize 1984

The Society Prize has been allocated to Dr Elena Buetti, Swiss Institute for Experimental Cancer Research, CH-1066 Epalinges sur Lausanne, Switzerland

Main Lectures

Prof. Dr H. H. Mollaret, Bacterial Ecology Unit, Pasteur Institute, Paris: Human activity and infectious disease.
PD Dr A. Degrémont, Swiss Tropical Institute, Basel: Imported diseases in Switzerland.
Dr F. Speiser, Swiss Tropical Institute, Basel: Serodiagnosis of parasitic diseases.

Round Table Discussions

Microbiological indicators of pollution
Dr J. S. Slade, Thames Water Authority, London/GB
Dr C. Breer, Institute of Clinical Microbiology and Immunology, St. Gallen/Switzerland
Dr H. Züllig, Appar. Wasserwirtschaft, Rheineck/Switzerland
Prof. Dr G. Turian, Laboratory of General Microbiology, University of Geneva/Switzerland

The Society Prize

Homologous and heterologous promoters require different extents of MMTV upstream sequences for transcriptional stimulation by glucocorticoids

E. Buetti, J. Firzlaff and H. Diggelmann
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Transcription of mouse mammary tumor virus in tissue culture can be stimulated 10- to 100-fold by the addition of glucocorticoid hormones to the culture medium. We have been studying the portions for MMTV genome that are responsible for this regulation, presumably through an interaction between hormone-receptor complexes and viral DNA sequences. In transfection experiments using chimaeric DNA molecules in which the coding sequence of the herpes simplex thymidine kinase (tk) gene was under the transcriptional control of MMTV we demonstrated that MMTV DNA sequences between −105 and −204 bp upstream of the initiation site of viral transcription are required for the glucocorticoid stimulation (EMBO J. *2* (1983) 1423). These data were based on quantitative S1 mapping with cytoplasmic, steady-state RNA from stably transfected Ltk^+ cell lines grown with or without dexamethasone addition.

Using the method of elongation in isolated nuclei of nascent RNA chains initiated in vivo, we found that the number of active RNA polymerase II molecules on MMTV DNA increased to the same extent as the specific mRNA level, and could account entirely for the hormonal effect on MMTV transcription. Moreover, this increase in polymerase loading required upstream sequences to −204, while a deletion to −149 abolished any stimulation above a constitutive level of transcription, in agreement with our previous results with stable RNA.

To test the ability of these sequences to confer glucocorticoid responsiveness to a heterologous, normally non-regulated promoter, we joined MMTV DNA usptream of −108 to the tk promoter (at −197 or −79 from the tk cap site). While fusions at −79 gave mostly aberrant transcripts in transfected cells, fusions at −197 produced correctly initiated tk transcripts. In this case, however, MMTV sequences between −108 and −204 were not sufficient for a glucocorticoid stimulation.

Main Lectures

Human activity and infectious disease

H. H. Mollaret
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In any study of an infectious disease, one has to distinguish between its epidemiology, on the one hand, and its 'natural history', on the other. The epidemiology of a disease is a study of its evolution through the ages; the fluctuations in its distribution, and its spread into other