



# Fondation Mérieux

WORKSHOP: EMERGING VARIANTS OF HEPATITIS B VIRUS

FROM RESEARCH TO THE CLINIC



January 23-25, 2005



Les Pensières / Veyrier-du-Lac



Symposium organized by the Fondation Mérieux  
in partnership with bioMérieux



Sunday January 23, 2005

# Programme

## 5.00 to 6.00 pm: Introduction

Christophe Mérieux, Guy Vernet, Fabien Zoulim

### Plenary Speaker

Worldwide epidemiology of HBV infection, disease burden, and vaccine prevention

Daniel Lavanchy (WHO, Geneva)

Discussion

## Welcome reception

Monday January 24, 2005

## 8.30 am: Molecular epidemiology of HBV infection

Chair: Ferruccio Bonino (Pisa, Italy), George Lau (Hong-Kong)

The epidemiology of HBV and clinical experience in Africa  
François Simon (Dakar, Senegal)

HBV in South America: clinical and molecular epidemiology of HBV transmission in Brazil  
Raimundo Parana (Brazil)

Molecular epidemiology of acute hepatitis B: are iatrogenically-induced HBV mutants circulating in the UK?  
Chong-Gee Teo (HPA, London, UK)

Molecular epidemiology of chronic HBV infection in Eastern Europe and Poland  
Krzysztof Bielawski (Gdansk, Poland)

Round Table

10.15 am: Break

## 10.45: Natural History of chronic HBV infection and antiviral therapy

Chair: Anna Lok (Ann Harbor, USA), David Mutimer (Birmingham, UK)

The natural history of chronic HBV infection  
Jean-Pierre Villeneuve (Montreal, Canada)

Do HBV mutants cause fulminant hepatitis ?  
Hans Will (Hamburg, Germany)

The clinical impact of occult HBV infection  
Christian Trépo (Lyon, France)

The current status of antiviral therapy of chronic hepatitis B  
Patrick Marcellin (Clichy, France)

Round Table

12.30: Lunch Break

## 2.00 pm: Pathobiology of wild type and mutant HBV strains

Chair: Jorg Petersen (Hamburg, Germany), Yung-Chi Cheng (Yale University, USA)

Mechanism of HBV genome variability and replication of HBV mutants  
Shuping Tong (Providence, USA)

Immunopathology of HBV infection and its impact on HBV variant selection  
George Lau (Hong-Kong, China)

Animal models for the study of HBV replication and its variants  
Jorg Petersen (Hamburg, Germany)

Stable inducible cell lines as a permanent source for drug and vaccine escape variants of HBV  
Michael Nassal (Freiburg, Germany)

Molecular aspects of HBV induced hepatocellular carcinoma  
Marie-Annick Buendia (Pasteur, Paris)

Round Table

4.00 pm: Break

## 4.30 pm: Detection of HBV mutants

Chair: William Carman (Glasgow, UK), Christian Trépo (Lyon, France)

The concept of mutant escape: virological and clinical definitions  
Jean-Michel Pawlotsky (Créteil, France)

The detection of HBV genotypes and mutants: current status  
Bert Niesters (Rotterdam, Netherlands)

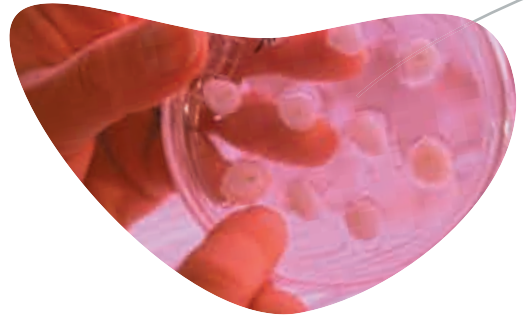
The DNA chip technology as a new molecular tool for the detection of HBV mutants  
Guy Vernet (Lyon, France)

Towards the development of DNA designed variant specific assays  
Lucyna Cova (Lyon, France)

Round Table

6.00 pm: Poster session

## 8.00 pm: Gala Dinner



Tuesday January 25, 2005

**8.30 am: HBV genotypes and pre-core mutants: molecular epidemiology and clinical impact**

Chair: Yun-Fan Liaw (Taiwan), Stanislas Pol (Necker, Paris)

HBV genome variability: epidemiology of HBV genotype and pre-core mutants in U.S. patients  
Anna Lok (Ann Arbor, USA)

HBV genome variability and disease progression: the impact of pre-core mutants and HBV genotypes  
Maria Buti (Barcelona, Spain)

Dynamic evolution of pre-core mutant during the course of chronic hepatitis  
Maurizia Brunetto (Pisa, Italy)

Round Table

10.00 am: Break

**10.30 am: HBV drug resistance**

Chair: Jean-Pierre Villeneuve (Montreal, Canada), Xavier de Lamballerie (Marseille, France)

The monitoring of antiviral therapy  
David Mutimer (Birmingham, UK)

The current management of HBV drug resistance  
Yun-Fan Liaw (Taiwan)

HBV resistance to lamivudine in China  
Xin-Xin Zhang (Shanghai, China)

Round Table

Kinetics of viral loss and emergence of drug resistant virus during antiviral therapy  
William Mason (Philadelphia, USA)

The concept of HBV drug resistance:

from genotypic to phenotypic analysis  
Fabien Zoulim (Lyon, France)

New targets and inhibitors of HBV replication to combat drug resistance  
Yung-Chi Cheng (Yale University, USA)

Round Table

1.00 pm: Lunch Break

**2.30 pm: Therapeutic vaccine for HBV infection**

Chair: Helmut Diepolder (Munich University, Germany), Luca Guidotti (Milan, Italy)

The problem of vaccine and HB Immunoglobulin escape mutants  
William Carman (Glasgow, UK)

Vectors and immunotherapy  
Serge Braun (Transgene, France)

Immunotherapy for chronic infections  
Bernard Verrier (Lyon, France)

The concept of therapeutic DNA vaccine: results of the first trial in chronic hepatitis B  
Marie-Louise Michel (Paris, France)

Software and expert system for the management of chronic hepatitis B  
Ferruccio Bonino (Pisa, Italy)

Round Table

**Conclusion**

Christophe Mérieux, Guy Vernet, Fabien Zoulim





## Les Pensières Conference Center

### Fondation Mérieux

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### Scientific committee

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Anna Podhajska

Chong-Gee Teo

Guy Vernet

### The disease

Chronic hepatitis B virus (HBV) infection remains a major public health problem worldwide. The 400 million infected people are exposed to a high risk of developing liver cirrhosis and liver cancer. HBV genome variability has a wide spectrum of clinical implications including resistance to antiviral treatment, escape to vaccination and escape to serological assays used for diagnosis.



### The objectives of the symposium would be to review the most recent data on HBV genome variability and especially on research activity:

- to identify the clinical situations that favour emergence of vaccine-escape and drug-resistant variants,
- to evaluate the prevalence and spread of HBV mutants,
- to characterise the genome of the variants,
- to study the pathobiology of the variants,
- to develop new animal and in vitro infection models.



### The major applications of this research will also be reviewed:

- development of new molecular assays for the diagnosis of variant infection,
- definition of the most accurate strategy to detect HBV infection and monitor its treatment,
- improvement of vaccination strategy.

The objective of the symposium will also be to make available recommendations to the scientific and medical community on the best way to control mutant HBV infections.

The symposium will be proposed to fundamental and clinical virologists, to clinicians and to representatives of pharmaceutical and diagnosis companies and members of health agencies.