

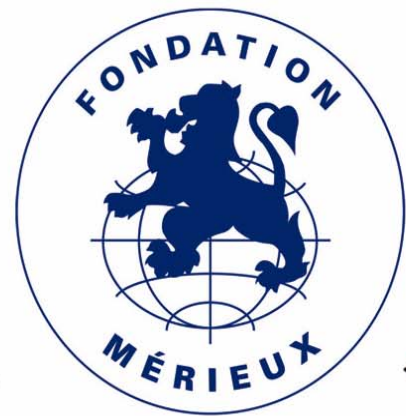
Herpes virus infection and immunity

"Les Pensières"
Fondation Mérieux Conference Center
Veyrier du Lac – France
June 18-20, 2012

Steering Committee :

Jeffrey Cohen
Catherine Dutel
Simon Delagrave
David Knipe
Jacques Louis

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Background and Rationale

Among the herpesviridae family, five viral species are of particular importance to human health: herpes simplex virus (HSV) types 1 and 2, varicella virus (VZV), Epstein-Barr virus (EBV) and cytomegalovirus (CMV). All of these are highly prevalent throughout the world; however, the high socioeconomic cost of disease due to HSV, its transmission to newborns at birth, and its enhancement of susceptibility to HIV infection, make it a particularly pressing target for vaccine development. While vaccines are available to prevent varicella in children and zoster in older adults, there has been very limited progress in developing an effective vaccine against HSV.

Latest developments in virology

A long-term study of HSV-infected individuals has recently confirmed prior findings that the virus is shed frequently regardless of whether the infected individual is symptomatic or not. What is the latest model of latency at the cellular and molecular levels? Where are the gaps in our understanding of this phenomenon, and what will it take to fill them? What technological and scientific advances will be required to enable the elimination of a latent infection?

Our understanding of the function of the glycoproteins involved in membrane fusion has advanced significantly in recent years with the solution of the atomic structures of gD, gB, gH and gL, and the biochemical analysis of their interactions. What have we learned and what are the implications for vaccine development?

Latest developments in immunobiology

It is clear that innate immunity plays a role in responding to HSV Infections. And the role of T Cell Immunity in sensory ganglia as well as peripheral tissues is under investigation. What progress have we made in studying these phenomena and in determining the correlates of protection against HSV Infection? What is known about the immune evasion mechanisms that HSV has evolved ?

Molecular epidemiology

The Knipe lab has identified a South African strain of HSV-2 showing evidence of immunological divergence from North American strains. HSV-2 is highly prevalent in sub-Saharan Africa and is known to increase susceptibility to HIV infection. With the availability of next-generation sequencing technology, could a systematic survey of HSV-2 and -1 isolates be carried out?

Prophylactic vaccines

GSK recently announced the failure of their Simplirix vaccine. What is the latest information available on this trial? Are there lessons to be learned which could be applied to future vaccine development efforts? What are our options for modelling natural HSV infections? What alternatives are there?

Immunotherapy

Therapeutic vaccines comprising gD have shown some weak but statistically significant benefits in human clinical trials. What must be achieved immunologically in order to effect a sufficiently beneficial clinical outcome?

Comparative virology

What can be learned from other vaccines for sexually transmitted diseases like human papillomavirus in terms of virology, immunology, and vaccinology?

The aim of this conference is to stimulate an exchange of information and ideas on herpes simplex with the hope that this will result in new insights that can be applied to the development of novel immunotherapeutic and immunoprophylactic approaches.

Simon Delagrave, Ph.D.

MONDAY, 18th June, 2012

WELCOMING SESSION		
17h30-18h30	► <i>Registration</i>	
18h30-18h40	<i>Welcome Addresses</i>	Fondation Mérieux
18h40-19h25	<i>Opening address: Past Lessons and application of new knowledge about immunology of HSV infection on the development of HSV vaccines</i>	Lawrence Corey
19h30	► <i>Welcome Dinner</i>	

TUESDAY, 19th June, 2012

SESSION I	Burden of diseases due to HSV infections, medical needs Chair: David Knipe	
8h30-8h50	<i>The diseases, including neonatal Herpes. The medical needs</i>	Richard Whitley
8h50-9h10	<i>Discussion</i>	
9h10-9h30	<i>Global Epidemiology of HSV infections, the links between HSV and HIV</i>	Helen Weiss
9h30-9h50	<i>Discussion</i>	
9h50-10h20	Coffee Break	
10h20-10h40	<i>The burden of HSV diseases in Africa</i>	Wim Sturm
10h40-11h00	<i>Discussion</i>	
11h00-11h20	<i>The economic burden of HSV diseases</i>	David Fisman
11h20-11h40	<i>Discussion</i>	
SESSION II	Epidemiology of HSV infections Chair: David Knipe	
11h40-12h00	<i>Epidemiology of HSV infections in Developed Countries</i>	Fujie XU
12h00-12h20	<i>Discussion</i>	
12h30-14h00	<i>Lunch</i>	
14h00-14h20	<i>Genetic and phenotypic diversity of HSV strains ; the issue of protection against the African strains</i>	David Knipe
14h20-14h40	<i>Discussion</i>	
SESSION III	Virology Chair: Gary Cohen	
14h40-15h00	<i>Biology of HSV Infections, latency</i>	Bernard Roizman

15h00-15h20	<i>Discussion</i>	
15h20-15h50	<i>Coffee break</i>	
15h50-16h10	<i>HSV entry</i>	Roselyn Eisenberg
16h10-16h30	<i>Discussion</i>	
16h30-16h50	<i>HSV glycoproteins and immune evasion</i>	Harvey Friedman
16h50-17h10	<i>Discussion</i>	
Session IV	Immunobiology of HSV infections Chair: Jeffrey Cohen	
17h10-17h30	<i>Antibodies against HSV</i>	Gary Cohen
17h30-17h50	<i>Discussion</i>	
17h50-18h10	<i>T cell response to HSV infections</i>	David Koelle
18h10-18h30	<i>Discussion</i>	
19h15	<i>Dinner</i>	
WEDNESDAY, June 20d	Session IV continued	
8h30-8h50	<i>Role of cytotoxic T cells on the spread of virus during primary HSV infection and on virus replication and reversion to latency</i>	Frank Carbone
8h50-9h10	<i>Discussion</i>	
9h10-9h30	<i>Host genetics and innate immunity</i>	Shen-Ying Zhang
9h30-9h50	<i>Discussion</i>	
9h50-10h20	<i>Coffee break</i>	
10h20-10h40	<i>Development of monoclonal antibodies and T cells for immunotherapy against herpes</i>	Antonio Lanzavecchia
10h40-11h00	<i>Discussion</i>	
Session V	Interventions against HSV infections Chair: Simon Delagrave	
11h00-11h20	<i>Animal models of HSV infection and vaccine development</i>	Jeffrey Cohen
11h20-11h40	<i>Discussion</i>	
11h40-12h00	<i>Vaccine development against HSV-Past, Current and Future</i>	Lawrence Stanberry
12h00-12h20	<i>Discussion</i>	
12h30-14h00	<i>Lunch</i>	
14h00-14h20	<i>The Herpevac Trial for Women: type specific efficacy against HSV infection and disease</i>	Robert Belshe
14h20-14h40	<i>Discussion</i>	

14h40-15h00	<i>Lessons learned from HPV vaccines</i>	Douglas R. Lowy
15h00-15h20	<i>Discussion</i>	
15h20-15h50	<i>Closing presentation: Further prospects for HSV vaccine development-Concluding remarks</i>	Anne Gershon
16h00	<i>Coffee before departure</i>	