



PROMOTING GLOBAL COLLABORATION IN HBV CURE RESEARCH

ICE-HBV Annual Symposium:

Interferons for Hepatitis B and D: their continuing contributions to cure strategies

Chairs:

Massimo Levrero (France) & Nina Le Bert (Singapore)

Chicago, Sunday 15 September 2024, 09:30 AM - 12:30 PM

	Time (min)
Welcome/Opening Remarks	5
Session 1: Scientific Talks (85 min)	
The Clinical Perspective on Interferon Therapy for Hepatitis B and D <i>Jordan Feld, University of Toronto (Canada)</i>	20
Antiviral Activities of Type I and III Interferons against HBV <i>Barbara Testoni, Cancer Research Center of Lyon (CRCL) and Lyon Hepatology Institute (IHU Lyon) (France)</i>	15
Antiviral Activities of Type I and III Interferons against HDV <i>Maura Dandri, University of Hamburg (Germany)</i>	15
Immuno-Modulatory Activities of Type I and III Interferons in Hepatitis: Impact on Innate and Adaptive Responses <i>Adam Gehring, Toronto Center for Liver Disease (Canada)</i>	20
Innovative Approaches: Pre-Clinical Development of a Bi-Specific (CD40-IFN) Fusion Protein for HBV and HDV <i>Kara Carter, Evotec/Avifa (France)</i>	15
Coffee Break (15 min)	15
Session 2: Partnering with Interferons to Boost Functional Cure: Ongoing Clinical Trials (45 min)	
Vir Biotechnology, <i>Florian Lempp</i>	15
Gilead Sciences, <i>Scott Balsitis</i>	15
GlaxoSmithKline, <i>Shihyun You</i>	15
Panel Discussion (25 min): Combining Novel Therapies with Interferons: Back to the Future?	25
Closing Remarks	5

Talks and discussions will address the following questions:

1. What are the clinical outcomes and challenges of interferon therapy for patients with Hepatitis B and D?
2. How do Type I and III interferons exhibit antiviral activities against Hepatitis B and D viruses?
3. How do Type I and III interferons boost innate and adaptive immunity against Hepatitis B and D viruses?
4. What is the future role of interferon in HBV and HDV cure strategies?

Workshop Description:

The ICE-HBV Symposium in Chicago, scheduled for September 15, 2024, aims to bring together scientists, clinicians, and representatives from the pharmaceutical and diagnostic industry to discuss challenges related to interferon therapies and their continuing contributions to hepatitis B virus (HBV) and hepatitis D virus (HDV) cure strategies. The workshop will be chaired by Massimo Levrero from the IHU Institute of Hepatology of Lyon, France, and Nina Le Bert from Duke-NUS Medical School, Singapore, leading experts in the field. The event will provide a platform to explore currently known mechanisms and potential determinants of sustained HBV and HDV control after interferon therapies.

Background and Objectives:

The pursuit of a functional cure for chronic HBV infections is believed to require the development of combination therapies that function via multiple mechanisms of action. Developing and exploring such combinations is the major goal in current HBV cure strategies. This includes the use of direct-acting antivirals and anti-HBV immune-stimulating responses. To prepare for future clinical trials, it is crucial to understand the primary and secondary modes of interferon action induced during combination drug treatments for HBV that include interferon, as well as the virological and immunological mechanisms behind these therapies. The ICE-HBV Annual Symposium aims to address these challenges and propose a way forward by drawing upon insights from experts in academia and the industry.

The workshop aims to report current knowledge and discuss the current clinical landscape and future perspectives of interferon therapies for HBV and HDV cure, exploring the antiviral and immune-modulatory activities of Class I and III interferons, understanding the underlying virological mechanisms, and assessing their impact on innate and adaptive immunity and finally delve into promising pre-clinical approaches simultaneously targeting HBV and HDV in the attempt to achieve cure. Through presentations, panel discussions, and debates, the symposium will facilitate knowledge sharing and identify knowledge gaps in the field. Presentations will be complemented by in-depth discussion panels that will debate these challenges and propose a way forward.

Program Outline: The workshop consists of two sessions and addresses the following topics:

The Clinical Perspective on Interferon Therapy for Hepatitis B and D

- This talk will explore the clinical outcomes, benefits, and challenges of using interferon therapy for patients with Hepatitis B and D, providing insights from recent studies and patient case examples.

Antiviral Activities of Type I and III Interferons: a Virological Perspective

Interferon- α is known to reduce the half-life of RNA-containing capsids, and to promote suppression of cccDNA transcriptional activity, thus resulting in a reduction in HBV production. However, this does not seem to account for all of its intracellular activities against HBV and it does not address indirect aspects that function via stimulating components of the immune system. The antiviral activity of interferons in the setting of HDV infection is also not fully understood and both cellular and viral factors seem to impact its efficacy. These issues need to be understood in the context of the combination therapies for HBV and HDV that are under development.

Immuno-Modulatory Activities of Type I and III Interferons in Hepatitis: Impact on Innate and Adaptive Immunity

This presentation will examine how Type I and III interferons modulate the immune response in Hepatitis, focusing on their impact on both innate and adaptive immunity, and discussing potential therapeutic strategies.

Innovative Approaches: Pre-Clinical Development of a Bi-Specific (CD40-IFN α) Fusion Protein for HBV and HDV

This talk will present cutting-edge research on the pre-clinical development of a bi-specific (CD40-IFN α) fusion protein designed to target HBV and HDV, highlighting its potential to enhance therapeutic efficacy and its progress toward clinical application.

Partnering with Interferons to Boost Functional Cure: Ongoing Clinical Trials

This session will provide an industry perspective on the current clinical trials involving interferons aimed at achieving a functional cure for HBV and HDV. It will discuss the partnerships, strategies, and preliminary results from ongoing studies.

These sessions will provide a comprehensive overview of the latest advancements in interferon therapy for Hepatitis B and D, addressing both clinical and research perspectives.