



HIV Persistence during Therapy

Fifth International Workshop
St. Maarten, West Indies • December 6-9, 2011

Final Program

This program is jointly sponsored by the University of Massachusetts Medical School
Office of Continuing Medical Education and Informed Horizons.



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Fifth International Workshop on HIV Persistence during Therapy

Scientific Program

Tuesday, December 6, 2011

Abstract

15:00 Satellite Symposium: Unique Challenges and Opportunities for Eradication of Brain HIV-1 Reservoirs
Sponsored by the National Institute of Mental Health

19:00 Welcome Dinner

Wednesday, December 7, 2011

MORNING SESSIONS

- | | | |
|--|---|---|
| 8:00 | Opening Remarks
Mario Stevenson | <i>University of Miami Leonard M. Miller School of Medicine, Miami, FL, USA</i> |
| 8:10 SESSION I: MODELS OF HIV PERSISTENCE | | |
| Chairs: José Alcamí <i>Instituto de Salud Carlos III, Madrid, Spain</i>
Moncef Benkirane <i>Laboratory of Molecular Biology, CNRS UPR 1142, Montpellier, France</i> | | |
| 8:10 | Viral Activators Evaluated for Treatment of Viral Persistence in a Nonhuman Primate Model for AIDS Therapy
Paul Luciw | 01
<i>University of California Davis, Davis, USA</i> |
| 8:30 | Simian Models of Viral Persistence
Jeff Lifson | <i>NCI-Frederick, Frederick, USA</i> |
| 8:50 | Eradication Trials in SIVmac251-infected Macaques
Andrea Savarino | 02
<i>Istituto Superiore di Sanità, Rome, Italy</i> |
| 9:10 | HIV-1 Latency in <i>in-vitro</i> Differentiated Central Memory Cells
Vicente Planelles | 03
<i>University of Utah School of Medicine, Salt Lake City, USA</i> |
| 9:25 | Generation of HIV Latency in BLT Humanized Mice
J. Victor Garcia | 04
<i>University of North Carolina at Chapel Hill, Chapel Hill, USA</i> |
| 9:40 | The Contribution of Splenic Macrophages to SIV Infection and Changes in this Population Following Antiretroviral Treatment
Julia Russell | 05
<i>Johns Hopkins University School of Medicine, Baltimore, USA</i> |
| 9:55 | Mega-ART Induces Viral Suppression and Restriction of the Viral Reservoir in a Simian AIDS Model
Iart Shytaj | 06
<i>Istituto Superiore di Sanità, Rome, Italy</i> |
| 10:10 | SIV/Macaque Model of Highly Active Antiretroviral Therapy: Viral Persistence and Ongoing CNS Inflammation
M. Christine Zink | 07
<i>Johns Hopkins University School of Medicine, Baltimore, USA</i> |
| 10:25 Break | | |

11:00	SESSION II: BASIC SCIENCE OF HIV PERSISTENCE	Abstract
Chairs:	Mario Stevenson Alain Lafeuillade	<i>University of Miami Leonard M. Miller School of Medicine, Miami, USA</i> <i>General Hospital, Toulon, France</i>
11:00	Control of HIV Latency by the “Two Peas in a Pod:” Polycomb and P-TEFb Jonathan Karn	08 <i>Case Western Reserve University, Cleveland, USA</i>
11:20	New Mechanisms of HIV Transcriptional Latency Monsef Benkiran	09 <i>Laboratory of Molecular Biology, CNRS UPR 1142, Montpellier, France</i>
11:40	Intracellular Tat Expression Modifies the Environment of Infected Lymphocytes José Alcami	10 <i>Instituto de Salud Carlos III, Madrid, Spain</i>
12:00	Thoughts on Elimination of Latent HIV Reservoirs Jerome Zack	11 <i>University of California, Los Angeles, USA</i>
12:15	Lunch	
AFTERNOON SESSIONS		
14:00-16:00	Poster Viewing Session	
16:00	SESSION III: VIROLOGICAL ASPECTS OF HIV PERSISTENCE	
Chairs:	John Coffin Christine Rouzioux	<i>Tufts University, Boston, USA</i> <i>CHU Necker-Enfants Malades, Paris, France</i>
16:00	Characterizing Latent HIV Reservoirs Sarah Palmer	12 <i>Swedish Institute for Infectious Disease Control and Karolinska Institute, Stockholm, Sweden</i>
16:20	Perspectives on Therapeutic Intervention and Eradication in HIV Infection Tae-Wook Chun	13 <i>NIH, Bethesda, USA</i>
16:40	Residual HIV Replication on ART Javier Martinez-Picado	14 <i>AIDS Research Institute (IrsiCaixa) and ICREA, Barcelona, Spain</i>
17:00	Epigenetic Modifications that Control Latency in T-Cells and Macrophages: Effect Of Chromatin Remodeling Complexes and Tat Modifications. Fatah Kashanchi	15 <i>GMU, Manassas, USA</i>
17:15	Exosomes from HIV-1 Infected Cells: Trojan Horses that Contain TAR miRNA and Proteins that Effect Latency Fatah Kashanchi	16 <i>GMU, Manassas, USA</i>
17:30	Targeted Activation of Viral Gene Expression by Exogenous Tat During Infection Inhibits the Establishment of HIV-1 Latency Daniel Donahue	17 <i>McGill University AIDS Centre, Jewish General Hospital, Montreal, Canada</i>
17:45	M1 Polarization of Human Monocyte-derived Macrophages (MDM) Restricts Pre- and Post-integration Steps of the HIV-1 Life Cycle. A Potential Role of APOBEC3A Guido Poli	18 <i>San Raffaele Scientific Institute & Vita-Salute San Raffaele University, Milano, Italy</i>
18:00	Hematopoietic Progenitor Cells (HPCs) are Preferentially Infected by CXCR4- and Dual-tropic HIV, and HIV from Latently Infected HPCs can be Transferred to CD4+ T Cells <i>in vitro</i> Adewunmi Onafuwa-Nuga	19 <i>University of Michigan, Ann Arbor, USA</i>
18:15	TRIM22 Inhibits Sp1-dependent HIV-1 Transcription Elisa Vicenzi	20 <i>San Raffaele, Milan, Italy</i>
19:30	Dinner	

MORNING SESSION**8:00 SESSION IV: INNATE IMMUNITY AND HIV PERSISTENCE**

Chairs: Monsef Benkirane *Laboratory of Molecular Biology, CNRS UPR 1142, Montpellier, France*
Marie-Lise Gougeon *Institut Pasteur, Paris, France*

- 8:00 The Cytosolic Exonuclease TREX1 Digests HIV Reverse Transcripts to Avoid Triggering an Antiviral Interferon Response in T Cells and Macrophages 21
Judy Lieberman *Harvard Medical School, Boston, USA*
- 8:20 Innate Immunity & Establishment of HIV Reservoirs 22
Nicolas Manel *Institut Curie, Paris, France*
- 8:40 How Samhd1 May Change Our View of Viral Restriction 23
Nadine Laguette *Laboratory of Molecular Biology, CNRS UPR 1142, Montpellier, France*
- 9:00 microRNAs and the Innate Immune Response to SIV Infection 24
Jeanne Sisk *Johns Hopkins University School of Medicine, Baltimore, USA*

9:15 Break**9:30 Poster Viewing Session****10:00 SESSION V: IMMUNE CONTROL OF HIV RESERVOIRS**

Chairs: Nicolas Chomont *VGTI-Florida, Port St. Lucie, USA*
Marie-Lise Gougeon *Institut Pasteur, Paris, France*

- 10:00 Relevance of Monitoring HIV Viral DNA Intermediates *in vivo* 25
Una O'Doherty *University of Pennsylvania, Philadelphia, USA*
- 10:20 The Impact of HIV-associated Inflammation on HIV Persistence 26
Steven Deeks *San Francisco General Hospital, University of California, San Francisco, USA*
- 10:40 Immunological Mechanisms Involved in HIV Persistence: Keeping Memory, Keeping HIV 27
Nicolas Chomont *Vaccine and Gene Therapy Institute of Florida, Port St. Lucie, USA*
- 11:00 Increased Susceptibility to CD8 T Cell Mediated Killing Limits the HIV-1 Reservoir in Naïve CD4 T Cells from Elite Controllers 28
Mathias Lichterfeld *Massachusetts General Hospital, Boston, USA*
- 11:15 Differential Impact of IL-7 and IL-15 on HIV Reservoir Persistence 29
Claire Vandergeeten *VGTI-Florida, Port St. Lucie, USA*
- 11:30 Modulation of Oxidative Stress Induces Apoptosis in Long-lived Phenotypes *ex vivo* 30
Barbara Chirullo *ZZItalian Institute of Health, Rome, Italy*

11:45 Lunch

AFTERNOON SESSIONS**Abstract****14:00-15:00 Poster Viewing Session II****15:00-15:30 SESSION VI A: LATE BREAKER ABSTRACTS**Chair: Alain Lefeuvre *General Hospital, Toulon, France***15:30-16:00 SESSION VI B: RESEARCH PRESENTATIONS FROM FIRMS SUPPORTING THE MEETING**Chair: Alain Lefeuvre *General Hospital, Toulon, France*15:30 Title TBA
On behalf of Gilead Sciences Inc.: Romas Geleziunas; *Foster City, USA*15:45 Title TBA
On behalf of Tibotec: Guenter Kraus; *Mechelen, Belgium***16:00 SESSION VII: ACUTE HIV INFECTION**Chairs: Mark Wainberg *McGill University AIDS Centre, Montreal, Canada*
Martin Markowitz *Aaron Diamond AIDS Research Center, New York, USA*16:00 A Randomized, Open-label Trial of 5-drug *versus* Standard 3-drug PI-based cART Initiated 31
During Acute and Early Infection: 96-week Results
Martin Markowitz *Aaron Diamond AIDS Research Center, New York, USA*16:20 The Effect of Mega-HAART and HAART Instituted During Fiebig I to IV Acute HIV Infection on 32
HIV Reservoir Size and Gut T cells
Jintanat Ananworanich *The Thai Red Cross AIDS Research Center, Bangkok, Thailand, and the US Military HIV Research Program, Rockville, USA*16:40 Reduced HIV-1 Reservoir Size after 10 years of Suppressive Antiretroviral Therapy in 33
Patients Initiating Treatment during Primary Infection
Maria Buzon *Ragon Institute of MGH, MIT and Harvard, Charlestown, USA*16:55 Control of HIV-1 Replication in CD4⁺ T Lymphocytes by using PKC Theta Inhibitors as a Strategy to Reduce 34
the Size of Reservoirs during Primary Infection
Mayte Coiras *Instituto de Salud Carlos III, Madrid, Spain***17:00 SESSION VIII: ANATOMIC RESERVOIRS**Chairs: José Gatell *Hospital Clinic, Barcelona, Spain*
Alain Lefeuvre *General Hospital, Toulon, France*17:00 Tissue Analysis of Lymphatic Reservoirs of HIV Infection 35
Timothy Schacker *Department of Medicine, University of Minnesota, Minneapolis, USA*17:20 Virologic Analysis of Lymphatic Reservoirs of HIV Infection 35
Mario Stevenson *University of Miami Leonard M. Miller School of Medicine, Miami, FL, USA*17:40 Pharmacologic Analysis of Lymphatic Reservoirs of HIV Infection 35
Courtney Fletcher *University of Nebraska Medical Center, Omaha, USA*18:00 The Brain and Spleen are Reservoirs of SIV Infection in Macrophages 36
Janice Clements *Johns Hopkins University School of Medicine, Baltimore, USA***18:20 Poster Viewing Session****20:00 Gala Dinner**

MORNING SESSIONS

8:00 SESSION IX: NEW APPROACHES & ERADICATION TRIALS - PART I

Chairs: Alain Lafeuillade *General Hospital, Toulon, France*
 Jean Michel Molina *Hopital Saint Louis, Paris, France*

- 8:00 Designing Clinical Trials for HIV-1 Eradication 37
 Daniel Kuritzkes *Harvard Medical School, Cambridge, USA*
- 8:20 The Role of Chemokines in the Establishment of HIV Latency 38
 Sharon Lewin
- 8:40 The HIV-1 Eradication Pipeline: Challenges and Opportunities 39
 Daria Hazuda *Merck Research Laboratories, West Point, USA*
- 9:00 The Effect of Vorinostat on Latent HIV-1 Expression *in vivo*: Preliminary Findings from a Clinical Study in ART-suppressed HIV-1-infected Patients 40
 David Margolis *Institute for Global Health & Infectious Diseases, UNC Chapel Hill, Chapel Hill, USA*
- 9:20 Effect of Maraviroc Intensification on the Decay of HIV-1 DNA in PBMC of Recently Infected Patients Initiating Treatment with Raltegravir plus Tenofovir/Emtricitabine: a 48-week Randomized Study 41
 Maria Puertas *IrsiCaixa - AIDS Research Institute, Badalona, Spain*
- 9:35 Dynamics of Immune Activation and PD-1 Expression in Recently Infected HIV-1 Naïve Subjects Intensifying with Maraviroc a Raltegravir plus Tenofovir/Emtricitabine Regimen 42
 Marta Massanella *IrsiCaixa, Badalona, Spain*
- 9:50 Picomolar Dichotomous Activity of Gnidimacrin Against HIV-1 Latent Infection 43
 Chin Ho Chen *Duke University Medical Center, Durham, USA*

10:05 Poster Viewing Session**10:30 SESSION X: NEW APPROACHES & ERADICATION TRIALS - PART 2**

Chairs: David Margolis *Institute for Global Health & Infectious Diseases, UNC Chapel Hill, Chapel Hill, USA*
 José Gatell *Hospital Clinic, Barcelona, Spain*

- 10:30 CCR5 Knock-out in Hematopoietic Stem Cells 44
 Paula Cannon *USC Keck School of Medicine, Los Angeles, USA*
- 10:50 A Single Infusion of Zinc Finger Nuclease (ZFN) CCR5 Modified Autologous CD4 T-cells Correlates with Increases CD4 Counts and Effects on Viral Load in Aviremic HIV-infected Subjects 45
 Carl June *Abramson Cancer Center, University of Pennsylvania, Philadelphia, USA*
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 Craig Wilen *University of Pennsylvania, Philadelphia, USA*
- 11:30 Excision of HIV Proviral DNA Using Tre-recombinase 47
 Jan van Lunzen *University Medical Center Hamburg-Eppendorf, Hamburg, Germany*
- 11:45 Direct Targeting of Integrated HIV Sequences Using Engineered Homing Endonucleases 48
 Keith Jerome *Fred Hutchinson Cancer Research Center, Seattle, USA*

WORKSHOP CONCLUSIONS

12:00 Alain Lafeuillade *General Hospital, Toulon, France*
 Françoise Barré-Sinoussi *Institut Pasteur, Paris, France*

Posters

title and author	abstract
An Animal Model to Evaluate the Eradication of Latent SIV Infection in Rhesus Macaques on ART <i>RM Dunham</i>	01
Plasma Biomarkers of Acute Retroviral Infection in the <i>Macaca nemestrina</i> Model of CNS Disease: CNS Disease, Latency, and Agings <i>KW Witwer</i>	02
A New Chimeric SIVmac251/SIVmac239 Virus for Vaccine Studies Requiring Moderate Sensitivity to Neutralization and Resistance to TRIM5a <i>PA Marx</i>	03
<i>Ex vivo</i> Modeling of Viral Reactivation Strategies in Virally Suppressed Subjects <i>R Fromentin</i>	04
Role of NFAT in Reactivation of HIV-1 Latency in Primary Memory CD4 ⁺ T Cells <i>A Bosque</i>	05
Latent HIV Infection Occurs in Multiple Hematopoietic Progenitor Cell Subsets and is Reversed by NF-κB Activation <i>LA McNamara</i>	06
Complete Transcriptome Analysis of Latently Infected CD4 ⁺ T Cells <i>F Romero</i>	07
Unique Mechanisms of HIV-1 Transcriptional Regulation in the CNS <i>M Churchill</i>	08
Do Gene Expression Levels and Genetic Polymorphisms in HIV Integrase Cofactor LEDGF/p75 have an Impact on HIV-1 Disease Progression <i>WD Spiegelare</i>	09
Differential Role of p-TEFb during HIV-1 Productive <i>versus</i> Latent Infections <i>M Famiglietti</i>	10
CD4 ⁺ T Cells in HIV-1 Patient Blood Release Platelet-sized, Protoplasmic Bodies that Evade Immunologic Intervention and Transmit HIV-1 <i>CL Bristow</i>	11
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