

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
miRNA and Epigenetic Regulations of the Immune Response

Bethesda Marriott Hotel, Bethesda, MD
December 11 - 12, 2008

Agenda

Thursday, December 11, 2008

- 7:00 – 8:00 a.m. *Registration and Continental Breakfast*
- 8:00 – 8:05 a.m. Welcome
Olivier Blondel, NIDDK
- 8:05 – 8:55 a.m. Keynote Address: Transcriptional Control of T-cell Activation and
Tolerance
Anjana Rao, Harvard Medical School

Session 1: miRNAs and the Immune Response
Chair: Klaus Rajewsky

- 8:55 – 9:00 a.m. Introduction
Klaus Rajewsky, Harvard Medical School
- 9:00 – 9:30 a.m. Gene Regulation by Transcription Factors and microRNAs
Klaus Rajewsky, Harvard Medical School
- 9:30 – 10:00 a.m. MicroRNA-mediated Regulation of T-cell Development Function
Chang-Zheng Chen, Stanford University School of Medicine
- 10:00 – 10:30 a.m. *Break*
- 10:30 – 11:00 a.m. MicroRNAs in Normal B Cell Development and Lymphomagenesis
Riccardo Dalla-Favera, Columbia University
- 11:00 – 11:30 a.m. Role of MicroRNAs in the Innate Immune Response
Mark Lindsay, University of Manchester, United Kingdom
- 11:30 a.m. – 12:00 p.m. Chromatin Control of Antiviral Response
Alexander Tarakhovsky, The Rockefeller University
- 12:00 – 1:20 p.m. *Lunch*

Session 2: Epigenetic Regulation of the Immune Response

Chair: *Matthias Merkenschlager*

- 1:20 – 1:30 p.m. Introduction
Matthias Merkenschlager, Imperial College London, United Kingdom
- 1:30 – 2:00 p.m. Cohesins in Gene Regulation and Genome Organization
Matthias Merkenschlager, Imperial College London, United Kingdom
- 2:00 – 2:30 p.m. Chromatin Poises miRNA and Protein-coding Genes for Expression
Keji Zhao, National Heart, Lung and Blood Institute
- 2:30 – 3:00 p.m. DNA Methylation Controls FOXP3 Gene Expression
Jochen Huehn, Helmholtz Centre for Infection Research, Germany
- 3:00 – 3:30 p.m. Break
- 3:30 – 4:00 p.m. Distal Regulatory Elements and Epigenetic Regulation of Cytokine Expression in T Helper Cells
Christopher Wilson, University of Washington School of Medicine
- 4:00 – 4:30 p.m. Writers, Readers, and Erasers: Epigenetic Regulation of the Dendritic Cell and Macrophage Phenotype
Steven Kunkel, University of Michigan Medical School
- 4:30 – 5:00 p.m. Epigenetic Regulation of Hematopoietic Stem Cell Differentiation
Michele Goodhardt, Institut Universitaire d'Hématologie, Paris

Friday, December 12, 2008

- 7:00 – 8:00 a.m. Registration and Continental Breakfast
- 8:00 – 8:50 a.m. Keynote Address: Cytoplasmic Determinants of T-cell Fate
Steven Reiner, University of Pennsylvania

Session 3: miRNA and Epigenetic Regulations in Autoimmune Diseases

Chair: *Diane Mathis*

- 8:50 – 9:00 a.m. Introduction
Diane Mathis, Joslin Diabetes Center
- 9:00 – 9:30 a.m. Genetic and Non-genetic Variability in Aire-mediated Control of Immunological Tolerance
Diane Mathis, Joslin Diabetes Center
- 9:30 – 10:00 a.m. Epigenetics of Autoimmunity
Bruce Richardson, University of Michigan

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| 10:00 – 10:30 a.m. | MicroRNAs as Targets of FoxP3 and Regulators of Treg Development and Function <i>Alexander Rudensky, University of Washington, Seattle</i> |
| 10:30 – 11:00 a.m. | <i>Break</i> |
| 11:00 – 11:30 a.m. | Genome-wide DNA Methylation Analysis in Monozygotic Twins Discordant for Type-1 Diabetes <i>Vardhman Rakyan, Institute of Cell and Molecular Science, London</i> |
| 11:30 a.m. – 12:00 p.m. | Chemical Biology of Foxp3+ Regulatory T cells (Tregs) <i>Wayne Hancock, Children's Hospital of Philadelphia and University of Pennsylvania</i> |
| 12:00 – 12:30 p.m. | Regulation of Thymocyte Differentiation by HDAC7 <i>Eric Verdin, University of California at San Francisco</i> |
| 12:30 – 1:40 p.m. | <i>Lunch</i> |

Session 4: Emerging Therapeutic Strategies in Autoimmune Diseases
Chair: *Judy Lieberman*

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| 1:40 – 1:45 p.m. | Introduction <i>Judy Lieberman, Immune Disease Institute, Harvard Medical School</i> |
| 1:45 – 2:15 p.m. | Antibody Fragment-mediated Delivery of siRNA Complexes in Specific Immune Compartments <i>Judy Lieberman, Immune Disease Institute, Harvard Medical School</i> |
| 2:15 – 2:45 p.m. | Immune Targeting Nanoparticles Containing siRNAs to Curtail Inflammatory Bowel Diseases <i>Dan Peer, Tel Aviv University, Israel</i> |
| 2:45 – 3:15 p.m. | Oligonucleotide-targeted Dendritic Cells in Autoimmunity <i>Nick Giannoukakis, Diabetes Institute, University of Pittsburgh</i> |
| 3:15 – 3:30 p.m. | <i>Break</i> |
| 3:30 – 4:00 p.m. | Folate-mediated Targeting of Drugs and siRNAs to Activated Macrophages and Cancer Cells <i>In Vivo</i> <i>Philip Low, Purdue University</i> |
| 4:00 – 4:30 p.m. | Amphoteric Liposomes for Targeted Delivery of RNAi in Inflammatory Diseases <i>Steffen Panzner, novosom AG, Halle, Germany</i> |
| 4:30 p.m. | <i>Wrap-up and Adjournment</i> |