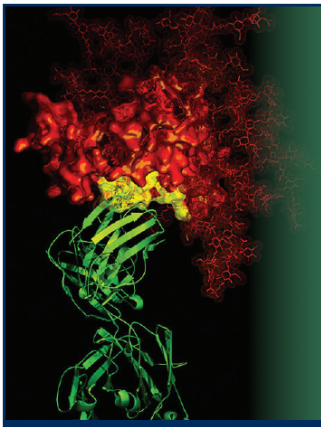

HIV Vaccines

March 26–30, 2017 | Sheraton Steamboat | Steamboat Springs, Colorado | USA

Scientific Organizers:
Andrew B. Ward, The Scripps Research Institute, USA
Penny L. Moore, National Institute for Communicable Diseases, South Africa
Robin Shattock, Imperial College London, UK

Part of the Keystone Symposia Global Health Series, supported by the Bill & Melinda Gates Foundation

Despite great progress in preventing and treating HIV, new infections continue to plague communities around the world, and the need for an HIV vaccine is as urgent as ever. Several large cohorts of HIV-infected individuals have enabled tremendous advances over the past five years in understanding immune responses to natural HIV infection. These advances have included the isolation of broad and potent anti-HIV antibodies, defining their developmental pathways, the generation of native-like Env trimers for immunization, and high-resolution structures of the envelope glycoprotein in complex with bnAbs. By 2017, many of these discoveries will have enabled new concepts to transition into human clinical trials, including passive monoclonal antibody therapy and novel immunization approaches. These platforms, incorporating improved technology for monitoring immune responses, will drive major advances in the vaccine field. This HIV Vaccines meeting will present the latest results from human clinical studies, along with the cutting-edge basic science behind such trials to highlight approaches that may lead to an HIV vaccine, and also reveal the molecular underpinnings of B and T cell-mediated immunity.

Session Topics:
- Emerging Data
- Lessons from Animal Vaccinations
- B and T- Cells
- Adjuvants and Delivery Systems
- Human Clinical Trials
- Transmission Biology
- Lessons from Natural Infection
- Immunogen Platforms

plus two workshops

Scholarship Application & Discounted Abstract Deadline: November 29, 2016
Abstract Deadline: January 10, 2017
Discounted Registration Deadline: January 24, 2017

Note: Scholarships are available for graduate students and postdoctoral fellows and are awarded based on the abstract submitted. Global Health Travel Awards are for investigators from low and middle income countries.

Upper image of B12 antibody courtesy of NIAID, NIH

Meeting Hashtag: #KShivvax

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SUNDAY, MARCH 26

Arrival and Registration

MONDAY, MARCH 27

Welcome and Keynote Address

*__Andrew B. Ward__, The Scripps Research Institute, USA

__Nina D. Russell__, Bill & Melinda Gates Foundation, USA
HIV Vaccines - The Year in Review

New Paradigms in Active and Passive Immunization

*__Andrew B. Ward__, The Scripps Research Institute, USA

__Michel C. Nussenzweig__, HHMI/Rockefeller University, USA
Passive Protection with 3BNC117

__K. Rachael Parks__, University of Washington, USA
Short Talk: Optimizing the Expansion of Primary VRC01 Antibody Responses by Germline-Targeting Immunogens

__Todd C. Bradley__, Duke University Medical Center, USA
Short Talk: Immune Checkpoint Inhibitor Co-Administration with HIV Env Modifies the Antibody Repertoire

__Alejandro Balazs__, Massachusetts General Hospital, USA
Development of Vectored ImmunoProphylaxis and ImmunoTherapy against HIV Infection

__Jonah B. Sacha__, Oregon Health & Science University, USA
Cross-Species CMV Vaccination Reveals Viral Determinants for Induction of Non-Classical MHC-E-Restricted T Cells

Workshop 1: Structural and Mechanistic Insights into Neutralization

*__Ian A. Wilson__, The Scripps Research Institute, USA

__Kimmo Rantalainen__, The Scripps Research Institute, USA
Structure of Full-Length HIV Envelope in Complex with PGT151

__Raiees Andrabi__, The Scripps Research Institute, USA
Glycans as Anchors for Inducing HIV Broadly Neutralizing Antibodies

__Sasha Murrell__, The Scripps Research Institute, USA
Structural Investigation of A Novel Family of Broadly Neutralizing Antibodies that Target the N332 Supersite in HIV Env

__Evan M. Cale__, NIAID, National Institutes of Health, USA
Isolation of an HIV-1-Specific Neutralizing Antibody Lineage with Similar Characteristics to the gp41-gp120 Interface-Binding Antibody 35O22

__Gwo-Yu Chuang__, NIAID, National Institutes of Health, USA
Optimization of HIV-1 Broadly Neutralizing Antibodies by Surface-Matrix Scanning

__Till Schoofs__, Rockefeller University, USA
Antibody 10-1074 Suppresses Viremia in HIV-1 Infected Individuals

__Ryan Meyerhoff__, Duke University, USA
Induction of Antibodies Targeting the V3 Glycan Broadly Neutralizing Epitope in Rhesus Macaques using a Synthetic Immunogen

Lessons from Animal Vaccinations

*__Rogier W. Sanders__, University of Amsterdam, Netherlands

__Paul Kellam__, Kymab, UK
Mice with Fully Human Immunoglobulin Loci and their Use for Predictive Vaccine Antigen Discovery

__Maria Blasi__, Duke University Medical Center, USA
Short Talk: Sequential Immunizations with an Integrase Defective LentiVector Induce Higher Magnitude and More Durable Antibody Responses than DNA and Protein Based Vaccine Regimens

__Nancy L. Haigwood__, Oregon Health & Science University, USA
Passive and Active Studies in Primate Models to Inform HIV Vaccines

__Peter D. Kwong__, NIAID, National Institutes of Health, USA
Short Talk: Peptide-Coupled Carrier Proteins to Focus the Immune Response to an HIV-1 Site of Vulnerability

__Andrew B. Ward__, The Scripps Research Institute, USA
Structures of HIV Neutralizing Antibodies Elicited from Animal Immunization with SOSIP Env Trimers

Poster Session 1

TUESDAY, MARCH 28

B and T Cells

*__Barton F. Haynes__, Duke University Medical Center, USA

__Gunilla B. Karlsson Hedestam__, Karolinska Institutet, Sweden
Individualized Profiling of Germline V Genes and Application to Env Trimer Immunogenicity Studies in NHPs

__Thomas B. Kepler__, Boston University, USA
B Cell Clonal Dynamics during Sequential Immunizations

__Sabrina Helmold__, NCI, National Institutes of Health, USA
Short Talk:Dynamics of T Follicular Helper Cells and Germinal Center B Cells over the Course of Vaccination in Rhesus Macaques

__Stephen J. Kent__, University of Melbourne, Australia
ADCC and Beyond

__Colin Havenar-Daughton__, La Jolla Institute of Allergy and Immunology, USA
Short Talk: Germinal Centers Correlate with HIV Trimer-Induced Neutralizing Antibody Induction and Inform Improved Immunization Scheduling for Maximizing HIV Neutralizing Antibody Responses

__Marie Pancera__, Fred Hutchinson Cancer Research Center, USA
Short Talk: Anti-Idiotypic Antibodies against Inferred Germline b12, a CD4 Binding Site Antibody, as Toosl for Detection of Naïve B Cells Expressing Germline b12-like Precursors and Rational Immunogen Design

Hands-On Computer Session on Los Alamos Sequence Database

Adjuvants and Delivery Systems

*__Robin Shattock__, Imperial College London, UK

__Carl R. Alving__, Walter Reed Army Institute of Research, USA
Rational Basis for Creation and Selection of Adjuvant Formulations for HIV-1 Vaccines

__Mark T. Orr__, Infectious Disease Research Institute, USA
Tailoring Vaccine Responses with Formulated TLR Agonist Adjuvants

James J. Kobie, University of Rochester, Medical Center, USA
Short Talk: IL-33 Enhances the Induction, Durability, and Breadth of the Antibody Response to a DNA/Protein-Based HIV Env Vaccine

Darrell J. Irvine, Massachusetts Institute of Technology, USA
Regulation of the Germinal Center Reaction and Humoral Response by Vaccine Kinetics

Poster Session 2

WEDNESDAY, MARCH 29

Human Clinical Trials

*__Gabriella Scarlatti__, Global HIV Vaccine Enterprise, USA

Mark B. Feinberg, IAVI International AIDS Vaccine Initiative, USA
Expediting Ebola Vaccine Development and Implications for HIV Vaccine R&D Efforts

Alberto Cagigi, NIAID, National Institutes of Health, USA
Short Talk: Potential for Immunization with eOD-GT8 to Drive B Cell Responses Toward the Production of CD4bs Antibodies

Barton F. Haynes, Duke University Medical Center, USA
Testing the Concept of B Cell Lineage Immunogen Design for Initiation of Broadly Neutralizing B Cell Lineages in Human Clinical Trials

Kelly E. Seaton, Duke Human Vaccine Institute, USA
Short Talk: Individual-level meta-analysis of HIV-1 Vaccine Elicited Mucosal Antibodies in Human Volunteers

M. Juliana McElrath, Fred Hutchinson Cancer Research Center, USA
Induction of HIV-Specific Immunity with Recent Clinical Vaccine Approaches

Robin Shattock, Imperial College London, UK
DNA Vaccination for Experimental Medicine Trials of HIV Vaccines

Hands-On Computer Session on Los Alamos Immunology Database

Lessons from Infection

*__Penny L. Moore__, University of the Witwatersrand and National Institute for Communicable Diseases, South Africa

Thumbi Ndung'u, University of KwaZulu-Natal, South Africa
Antiretroviral Treatment of Acute HIV Infection and the Prospect for a Functional Cure

Christiane Moog, INSERM and Université of Strasbourg, France
Short Talk: Unexpected Antibody Isotypes and Neutralizing Profile in Patients Controlling HIV

Julie M. Overbaugh, Fred Hutchinson Cancer Research Center, USA
Unique Aspects of the Infant HIV-Specific Neutralizing Antibody Response

Alexandra Trkola, University of Zürich, Switzerland
Determinants of bnAb Development

Poster Session 3

THURSDAY, MARCH 30

Broadly Neutralizing Antibodies: Hurdles and Opportunities

*__Alexandra Trkola__, University of Zürich, Switzerland

Penny L. Moore, University of the Witwatersrand and National Institute for Communicable Diseases, South Africa
Longitudinal Studies of Neutralizing Antibody Development in the CAPRISA Cohort

Kshitij Wagh, Los Alamos National Laboratory, USA
Short Talk: Env Glycan Holes Negatively Impact Development of Heterologous Neutralization Breadth in HIV-1 Infections

Brandon DeKosky, University of Kansas, USA
Short Talk: High-Throughput Paired Heavy and Light Chain Analyses of HIV Broadly Neutralizing Antibody Lineages

Elise Landais, International AIDS Vaccine Initiative, USA
Broadly Neutralizing Antibodies to HIV-1: Lessons from Protocol C Studies

Wilton Bryan Williams, Duke University, USA
Short Talk: SHIV-CH505 Infection of Rhesus macaques Recapitulates HIV-1 Env-Antibody Evolution in Humans

Samantha Leigh Grimley, San Diego Biomedical Research Institute, USA
Short Talk: Striking Impact of HIV-1 Envelope Glycoengineering on BnAb Sensitivities

Nicole A. Doria-Rose, NIAID, National Institutes of Health, USA
Tracing Virus-Antibody Co-Evolution of MPER-directed Neutralizing Antibodies

Workshop 2: Testing Vaccine Platforms in Animals

*__Richard T. Wyatt__, IAVI Neutralizing Antibody Center at The Scripps Research Institute, USA

Diane L. Bolton, US Military HIV Research Program, WRAIR, USA
Immunogenicity and Efficacy of MVA, gp145 Vaccination Against Heterologous Tier 2 SHIV C Challenge in Rhesus

Qifeng Han, Duke University, USA
HIV gp41 Immunodominance Following gp140 Immunization Occurs in Humans but is Not Detected in Rhesus Macaques

Mattias Forsell, Umeå University, Sweden
Autologous But Not Heterologous Antibodies Negatively Regulate Subunit-Specific Germinal Center B Cell Responses to the HIV-1 Envelope Glycoproteins

Matthias Georg Pauthner, The Scripps Research Institute, USA
Optimized Env Trimer Immunization Parameters Amplify Onset, Magnitude and Consistency of Autologous Tier 2 Neutralizing Antibody Development in Nonhuman Primates

Paola Andrea Martinez, Karolinska Institutet, Sweden
F9, A New Class of Antibody that Neutralizes Autologous Tier 2 Viruses in Rhesus Immunized with Liposome Conjugated Well-Ordered Trimers

Jose Maximiliano Medina-Ramírez, University of Amsterdam, Netherlands
A Native-Like Envelope Trimer with Enhanced Binding of Inferred Germline Precursors of Broadly Neutralizing HIV-1 Antibodies

James E. Voss, The Scripps Research Institute, USA
Reproducible Elicitation of HIV Envelope V2-Apex Focused Neutralizing Antibodies in Rabbits

Immunogen Platforms

*__Peter D. Kwong__, NIAID, National Institutes of Health, USA

__Jon Steichen__, The Scripps Research Institute, USA
HIV Vaccine Design to Target Germline Precursors of N332-Dependent Broadly Neutralizing Antibodies

__Neil P. King__, University of Washington, USA
Design of Novel Self-Assembling Protein Nanomaterials as Next-Generation Vaccine Scaffolds

__Rogier W. Sanders__, University of Amsterdam, Netherlands
Inducing HIV-1 Neutralizing Antibodies with Native-Like Envelope Trimers

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

FRIDAY, MARCH 31

Departure