Training Course Registration

08:00 - 09:00

Introduction to Antibody Engineering

09:00 - 17:00
Training Course: Introduction to Antibody Engineering

Add-on this pre-conference training course to your main conference registration package for an additional fee and gain a comprehensive overview of antibody engineering in an easy-to-follow classroom setting to help you prepare for the main conference program.

- Training course registration begins at 8:00am.
- Break Schedule:
  - AM Break: 10:30-11:00;
  - Lunch: 12:30-1:30;
  - PM break: 3:00-3:30

TRAINING COURSE OVERVIEW

Today's wealth of knowledge of protein structures will be reviewed along with the genetics of diversity generation of antibodies, to give insights into the best strategies for improving protein function. There is particular emphasis on the choice of a functional assay to effectively monitor the changes in a desired property, and the use of functional enrichment steps where a library approach is employed. Not only is amino acid sequence amenable to engineering, but glycan structures and other modifications may also be engineered. The course will focus on the engineering and enhancement of antibodies and antibody-like scaffolds. Examples will include work on antibody fragment affinity improvement by 100-fold to low pM affinity. Also, the engineering of bispecific antibodies by diverse approaches and the adaptation to generate Chimeric Antibody Receptor (CAR) constructs will be discussed. Expression platforms for producing antibodies for testing and for manufacture will also be covered. A background in biochemistry and molecular biology is useful, as the course is designed to progress rapidly from simple to advanced concepts.

INSTRUCTOR

David Bramhill, Ph.D., Founder, Bramhill Biological Consulting, LLC and Research Corporation Technologies

COURSE AGENDA

- Functions amenable to engineering: affinity, specificity, stability, solubility, immunogenicity
- The measure of success: functional assays
- Engineering by design
- Engineering by random mutation
- Designed libraries
- Display technologies
- Improving manufacturing by protein engineering methods
- Glycosylation engineering – function and homogeneity
- Other protein modifications
- Immunogenicity engineering
- Bispecific antibodies
- Antibody-drug conjugates (ADCs)
- CAR-T strategies
- Expression of antibodies and fragments for discovery and testing
- Manufacturing platforms for antibodies and fragments

Participants

David Bramhill, PhD - Consultant , Bramhill Biological Consulting, LLC

Workshop Co-Moderator's Remarks

13:00 - 13:15
Workshop A: How to Develop an Antibody-based Drug from Discovery to IND?

Participants

Rob Roovers - Senior Director, Preclinical Development , LAVA Therapeutics

Edward Van Den Brink, PhD - Director, Antibody Discovery , Genmab

Workshop Moderator's Remarks

13:00 - 13:15
Workshop B: Adaptive Immune Receptor Repertoire Data Processing, Annotation and Interpretation

Participants

Cédric Weber, PhD - Director of Data Science and Bioinformatics , Alloy Therapeutics

Antibody Discovery: What Does it Take to Generate the Antibodies Against Your Target of Interest?

13:15 - 13:45
Workshop A: How to Develop an Antibody-based Drug from Discovery to IND?

Hybridoma generation is still considered a valuable technology for the generation of antibodies that are crucial components of antibody-based drugs. Alternatively, antibodies can be generated using single B cells technologies, display technologies or even via artificial intelligence. Here, I will present and discuss some approaches to generate antigen-specific antibodies, including their pros and cons.

Participants

Edward Van Den Brink, PhD - Director, Antibody Discovery , Genmab

SESSIONS

PRE-CONFERENCE WORKSHOPS (PM ONLY) AND TRAINING COURSE (FULL DAY) - 04/12/2022

Antibody Discovery Using Single Cell Multi-omics

13:15 - 13:45
Workshop B: Adaptive Immune Receptor Repertoire Data Processing, Annotation and Interpretation

Using next-generation antigen barcoding and the 10x Genomics platform, we can rapidly discover and deconvolute the specificities of large numbers of antigen-specific antibodies.

Participants

Bryan Briney, PhD - Assistant Professor, Department of Immunology and Microbial Science , The Scripps Research Institute

Functional Screening, Characterization and Optimization of Antibody Leads

13:45 - 14:15
Workshop A: How to Develop an Antibody-based Drug from Discovery to IND?

Depending on the final application in which an antibody will be used, a more designed approach or a more agnostic screening to identify a functional antibody lead can be envisaged. Both approaches require a different infrastructure and put a different pressure on the functional screening assay that is being employed. In addition, further lead optimization may be needed to increase developability or to fine-tune reactivity and selectivity. These approaches will be briefly discussed and compared.

Participants

Rob Roovers - Senior Director, Preclinical Development , LAVA Therapeutics

Extensive Germline Diversity in the Immunoglobulin Genes of Inbred Mouse Strains

13:45 - 14:15
Workshop B: Adaptive Immune Receptor Repertoire Data Processing, Annotation and Interpretation

We have employed adaptive immune receptor repertoire (AIRR) and genomic sequencing to characterize genetic variation in the immunoglobulin loci in inbred mouse strains, including those used as disease models. Our data demonstrate an underappreciated source of immunogenetic diversity, with practical implications for investigating the dynamics of the antibody response in disease and developing novel therapeutics.

Participants

Corey Watson, PhD - Assistant Professor , University of Louisville School of Medicine

How to Align Your Patent Strategy with Preclinical Development of Antibodies

14:15 - 14:45
Workshop A: How to Develop an Antibody-based Drug from Discovery to IND?

The presentation will focus on patenting strategies for antibody-based drugs, including timing of patent filings, what experimental data are needed and what type and scope of claims can be obtained in main jurisdictions, including the United States and Europe. Furthermore, timing and strategies for Freedom-to-Operate analysis will be discussed.

Participants

Bart Van Den Hazel, PhD - European Patent Attorney , CoBrA-IP/ Kirkpatrick

Memory Antibodies Demonstrate Light Chain Coherence

14:15 - 14:45
Workshop B: Adaptive Immune Receptor Repertoire Data Processing, Annotation and Interpretation

The adaptive immune system is a product of half a billion years of battle and coevolution. We reveal a previously undescribed property of human antibodies which we call "light chain coherence" using an ex vivo single cell dataset of 1.6 million B cells. In so doing, we show that for a given memory antibody's heavy chain, the light chain is largely determined; this can be observed both within and between humans.

Participants

Wyatt McDonnell, PhD - CEO , Infinimmune, Inc.

Networking Refreshment Break

14:45 - 15:15
Workshop A: How to Develop an Antibody-based Drug from Discovery to IND?

Networking Refreshment Break

14:45 - 15:15
Workshop B: Adaptive Immune Receptor Repertoire Data Processing, Annotation and Interpretation

ARGX-119: MuSK Agonist with Broad Potential in Neuromuscular Disease

15:15 - 15:45
Workshop A: How to Develop an Antibody-based Drug from Discovery to IND?

ARGX-119 is an agonistic anti- muscle-specific kinase (MuSK) antibody, derived from the SIMPLE© antibody platform, with broad potential in neuromuscular diseases. Congenital myasthenia (CM) is a devastating neuromuscular disease and mutations in DOK7 are a major cause of CM. We developed agonist antibodies against MUSK and show that these antibodies restored neuromuscular synapse formation and prevented neonatal lethality and late-onset disease in mouse model for DOK7 CM.

Participants

Roeland Vanhauwaert, PhD - Senior Scientist , Argenx

Deep Profiling of Transgenic Mouse Repertoires

15:15 - 15:45
Workshop B: Adaptive Immune Receptor Repertoire Data Processing, Annotation and Interpretation

Machine learning applications in antibody discovery require standardized collection, processing, and in-depth characterization of adaptive immune receptor data. By combining in vivo, in vitro, and in silico methods we have generated datasets that reveal the diversity of antibody responses in naïve and immunized ATX-Gx™ transgenic mice. The resulting annotated repertoires provide ground truth data that supports the application of machine learning-enabled analysis and improves existing antibody discovery workflows.

Participants

Cédric Weber, PhD - Director of Data Science and Bioinformatics , Alloy Therapeutics

Late Breaking Presentation

15:45 - 16:15
Workshop A: How to Develop an Antibody-based Drug from Discovery to IND?

SCHEDULE

PRE-CONFERENCE WORKSHOPS (PM ONLY) AND TRAINING COURSE (FULL DAY) - 04/12/2022

Recurring Molecular Features of Public Antibody Responses to SARS-CoV-2

15:45 - 16:15
Workshop B: Adaptive Immune Receptor Repertoire Data Processing, Annotation and Interpretation

Global research to combat the COVID-19 pandemic has enabled SARS-CoV-2 antibodies to be discovered at unprecedented speed and scale that have not been possible for other pathogens. Mining the huge amount of published data can provide previously unknown, yet important, molecular insights into antibody response against SARS-CoV-2.

Participants

Nicholas Wu, PhD - Assistant Professor, Department of Biochemistry , University of Illinois at Urbana-Champaign

Late Breaking Presentation

16:15 - 16:45
Workshop A: How to Develop an Antibody-based Drug from Discovery to IND?

Panel Discussion with Workshop Speakers

16:15 - 17:00
Workshop B: Adaptive Immune Receptor Repertoire Data Processing, Annotation and Interpretation

Concluding Remarks and Discussion

16:45 - 17:00
Workshop A: How to Develop an Antibody-based Drug from Discovery to IND?

Close of Workshops and Training Course

17:00 - 17:05

TIME	TRAINING COURSE: INTRODUCTION TO ANTIBODY ENGINEERING	WORKSHOP A: HOW TO DEVELOP AN ANTIBODY-BASED DRUG FROM DISCOVERY TO IND?	WORKSHOP B: ADAPTIVE IMMUNE RECEPTOR REPERTOIRE DATA PROCESSING, ANNOTATION AND INTERPRETATION
08:00	**08:00** - Training Course Registration	**08:00** - Training Course Registration	**08:00** - Training Course Registration
09:00	**09:00** - Introduction to Antibody Engineering		

SESSIONS

MAIN CONFERENCE DEC.5 - 05/12/2022

TIME	TRAINING COURSE: INTRODUCTION TO ANTIBODY ENGINEERING	WORKSHOP A: HOW TO DEVELOP AN ANTIBODY-BASED DRUG FROM DISCOVERY TO IND?	WORKSHOP B: ADAPTIVE IMMUNE RECEPTOR REPERTOIRE DATA PROCESSING, ANNOTATION AND INTERPRETATION
13:00		**13:00** - Workshop Co-Moderator's Remarks **13:15** - Antibody Discovery: What Does it Take to Generate the Antibodies Against Your Target of Interest? **13:45** - Functional Screening, Characterization and Optimization of Antibody Leads	**13:00** - Workshop Moderator's Remarks **13:15** - Antibody Discovery Using Single Cell Multi-omics **13:45** - Extensive Germline Diversity in the Immunoglobulin Genes of Inbred Mouse Strains
14:00		**14:15** - How to Align Your Patent Strategy with Preclinical Development of Antibodies **14:45** - Networking Refreshment Break	**14:15** - Memory Antibodies Demonstrate Light Chain Coherence **14:45** - Networking Refreshment Break
15:00		**15:15** - ARGX-119: MuSK Agonist with Broad Potential in Neuromuscular Disease **15:45** - Late Breaking Presentation	**15:15** - Deep Profiling of Transgenic Mouse Repertoires **15:45** - Recurring Molecular Features of Public Antibody Responses to SARS-CoV-2
16:00		**16:15** - Late Breaking Presentation **16:45** - Concluding Remarks and Discussion	**16:15** - Panel Discussion with Workshop Speakers
17:00	**17:00** - Close of Workshops and Training Course	**17:00** - Close of Workshops and Training Course	**17:00** - Close of Workshops and Training Course

Registration and Breakfast

07:15 - 08:00

Chairwoman's Welcome and Opening Remarks

08:00 - 08:05
Keynote Presentations

Participants

Janine Schuurman, Ph.D. - Vice President, Research , Genmab

Vaccine Design for Potent and Durable Protective Immunity

08:05 - 08:45
Keynote Presentations

Vaccines need to optimally mimic a pathogen, or at least the parts of it that can elicit protective immune responses, in order to provide through vaccination similar or preferably even better immune protection than natural infection. Some experiences in the field of COVID-19, HIV and RSV will be shared.

Participants

Hanneke Schuitemaker, PhD - Global Head of Viral Vaccine Discovery and Translational Medicine , Janssen Vaccines & Prevention B.V.

Keynote Questions

08:45 - 08:50
Keynote Presentations

Efgartigimod: A Novel FcRn Antagonist in the Treatment of Autoimmune Diseases

08:50 - 09:30
Keynote Presentations

Immunoglobulin G (IgG) autoantibodies are key moderators of a broad range of several autoimmune diseases. The neonatal Fc receptor (FcRn) is the central regulator of IgG homeostasis, rescuing IgG (including pathogenic autoantibodies) from lysosomal degradation. Hans De Haard, argenx CSO will share insight on efgartigimod, which is a human IgG1 Fc-fragment engineered for increased FcRn affinity that outcompetes endogenous IgG binding, thereby reducing IgG recycling. Efgartigimod treatment has been shown to reduce all IgG subtypes without reducing other immunoglobulin types, which has correlated with clinical efficacy in multiple IgG driven autoimmune diseases.

Participants

Hans de Haard, PhD - Chief Scientific Officer , Argenx

Keynote Questions

09:30 - 09:35
Keynote Presentations

Networking Refreshment Break

09:35 - 10:05
Keynote Presentations

Therapeutic Opportunities in Glycoscience

10:05 - 10:45
Keynote Presentations

Cell surface glycans constitute a rich biomolecular dataset that drives both normal and pathological processes. Their “readers” are glycan-binding receptors that can engage in cell-cell interactions and cell signaling. Our research focuses on mechanistic studies of glycan/receptor biology and applications of this knowledge to new therapeutic strategies. Our recent efforts center on pathogenic glycans in the tumor microenvironment and new therapeutic modalities based on the concept of targeted degradation.

Participants

Carolyn Bertozzi, PhD - Baker Family Director, Stanford ChEM-H and Anne T. and Robert M. Bass Professor of Chemistry , Stanford University

Keynote Questions

10:45 - 10:50
Keynote Presentations

Computational Systems Analysis of Host Immune Functions in Pathogen Infections and Vaccines

10:50 - 11:30
Keynote Presentations

Because of the complexity of immune responses to pathogens, our ability to gain insights and principles from experimental interrogation of blood and tissue samples, from human subjects as well as animal models, can be enhanced by computational analysis and modeling embracing an integrative systems perspective. Motivation for computational systems analysis of immune response data derives from fundamental issues: concomitant contributions from multiple molecular and cellular features together govern observed responses, rather than any single feature being determinative by itself; and these multi-feature contributions typically are not independent but instead highly covarying. Computational modeling approaches rooted in ‘machine learning’ accommodate these issues and in fact offer enhanced capabilities in statistical power and biological interpretation. This talk will offer examples of application of these approaches to host immune response studies in pathogen infections and vaccines, including from the contemporary Covid pandemic.

Participants

Douglas Lauffenburger, PhD - Ford Professor of Bioengineering , Massachusetts Institute of Technology

Keynote Questions

11:30 - 11:35
Keynote Presentations

Jim Huston Science Talent Award Winner Presentation

11:35 - 12:10
Keynote Presentations

Participants

Award Presentation Moderator: Janine Schuurman, Ph.D. - Vice President, Research , Genmab

Transition to Scientific Luncheon Briefings

12:10 - 12:15
Keynote Presentations

Manufacturing Next-Generation Multi Domain Protein Pharmaceuticals Using the Leap-In Transposase® Platform

12:15 - 13:15
Scientific Luncheon Briefing 1

Monoclonal antibodies in their many divergent formats have revolutionized medicine and today represents >$100B/year in pharmaceutical sales. ATUM has built an integrated pipeline from generation of antigens via affinity maturation, developability, engineering and humanization all the way through scale up and stable cell line generation. The presentation will include case studies highlighting the process, each step uses technological breakthroughs in synthetic biology, machine learning, LIMS data integration, robotics and engineered transposases to ensure maximum efficiency.

Participants

Speaker: Claes Gustafsson - Co-founder and Chief Commercial Officer , Atum Bio

OmniAb Scientific Briefing

12:15 - 13:15
Scientific Luncheon Briefing 2

Twist Scientific Briefing

12:15 - 13:15
Scientific Luncheon Briefing 3

From Lead Discovery through Optimization and Validation: A Case Study in Rapid Antibody Discovery

12:15 - 13:15
Scientific Luncheon Briefing 4

Here we present case studies on CD47, TFR1 and SIRPa antibody discovery programs leveraging the DistributedBio's platforms covering: 1) DISCOVERY: Performance data from our new flagship – the Cosmic™ antibody library; 2) SCREENING: Implementations of rapid, multi-dimensional on- and off-target screening for thousands of antibody candidates; 3) OPTIMIZATION: Affinity and specificity tuning through our Tumbler™ multiparameter optimization platform and 4) VALIDATION: Epitope coverage and ligand blocking along the CD47-SIRPa axis. Join us for this lunch to learn more about these innovative solutions for antibody discovery from Charles River.

Participants

Jean-Philippe Bürckert, Ph.D. - Director, Bioinformatics, Large Molecule Discovery , Charles River Laboratories

Kalyani Mondal, Ph.D. - Associate Director, Biosensors , Charles River Laboratories

SESSIONS

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Ablexis/Alivamab Scientific Briefing

12:15 - 13:15
Scientific Luncheon Briefing 5

Perkin Elmer Scientific Briefing

13:15 - 13:45
Scientific Briefing 1

Abveris Scientific Briefing

13:15 - 13:45
Scientific Briefing 2

Beckman Coulter Scientific Briefing

13:15 - 13:45
Scientific Briefing 3

Roche Scientific Briefing

13:15 - 13:45
Scientific Briefing 4

Streamlining Antibody Discovery with the Dotmatics Biology Solution

13:15 - 13:45
Scientific Briefing 5

Antibody Discovery projects necessarily involve many different scientific workflows. Difficulties integrating data from these disconnected workflows can introduce significant inefficiencies and risks for errors. The Antibody Discovery Workflow in the Dotmatics Biology Solution has been designed to address this challenge. The Solution brings together Dotmatics' enterprise scientific platform and specialized applications such as Geneious Biologics and GraphPad Prism to improve collaboration and streamline Antibody Discovery processes.

Participants

Melanie Nelson, PhD - Senior Solutions Architect , Dotmatics

Human Single Domain Antibody Library Platform for Efficient Cell Therapy and Bispecific Discovery

13:45 - 14:15
Scientific Briefing 1

Single domain antibodies (sdAbs) have emerged as ideal targeting arms in the fields of cell therapies and multispecific antibodies due to their small size, modularity, and ability to bind antigens with high affinity while avoiding VH/VL mispairing issues. Alloy Therapeutics has recently developed a semi-synthetic sdAb library platform built on stable human frameworks. This presentation will introduce the platform and share data for efficient phage display-based discovery of targeting arms with therapeutic applications.

Participants

Jason Lajoie, PhD - Associate Director, Head of Lead Optimization , Alloy Therapeutics

Structure-Based Charge Calculations for Predicting Properties and Profiling Antibody Therapeutics

13:45 - 14:15
Scientific Briefing 2

The effect of hydrophobicity on antibody aggregation is well understood, and it has been shown that charge calculations can be useful for high-concentration viscosity and pharmacokinetic (PK) clearance predictions. In this work, structure-based charge descriptors are evaluated for their predictive performance on recently published antibody pI, viscosity, and clearance data. From this, we devised four rules for therapeutic antibody profiling which address developability issues arising from hydrophobicity and charged-based solution behavior, PK, and the ability to enrich for those that are approved by the U.S. Food and Drug Administration. Differences in strategy for optimizing the solution behavior of human IgG1 antibodies versus the IgG2 and IgG4 isotypes and the impact of pH alterations in formulation are discussed.

Participants

Nels Thorsteinson - Director of Biologics , Chemical Computing Group

Overcoming the Challenges for High-Throughput Production of Diverse Custom Proteins Used in Discovery Applications

13:45 - 14:15
Scientific Briefing 3

Dr. Wu will discuss the challenges in high-throughput protein production for small and large molecule drug discovery. We demonstrate the parameters and design space required to generate high-quality proteins for HTS, antibody discovery, in vivo and developability studies. Supported by our industry-leading platforms, the Protein Sciences department at WuXi Biologics provides production services utilizing various expression systems for the generation of monoclonal, bispecific and multispecific antibodies, and other recombinant proteins.

Participants

Jiansheng Wu, PhD - Head of Protein Sciences , WuXi Biologics

Process Development and Detailed Analytical Characterization of PicobodiesTM: a Novel Antibody Format Produced using Pelican Expression TechnologyTM

13:45 - 14:15
Scientific Briefing 4

The Pelican Expression Technology™ platform, a Pseudomonas fluorescens-based protein expression system, is a robust and scalable platform for recombinant protein production and is especially well-suited for complex protein production such as various types of antibody scaffolds. Cow antibodies have a unique ultralong heavy-chain complementarity-determining region 3 (CDR3) and have potential to bind epitopes that are challenging, or cryptic, like G protein-coupled receptors (GPCRs) and ion channels because of their distinctive protruding structure. The knob domain of the ultralong CDR3 scaffold is the paratope region and is about 4-5 kDa in size with highly diverse sequence content and multiple disulfide bonding patterns. Because of their small size, the knob domains, or Picobodies™, can be independently genetically engineered and developed to therapeutically target crevices, pores, or other protein epitopes that "regular" antibodies cannot. The Pelican platform, with its extensive toolbox of genetic elements and modified hosts strains, was utilized to identify optimized expression strains producing high titer of high quality Picobodies™ for further process development. A robust fermentation and unique downstream purification process were developed to leverage the physicochemical and functional properties this antibody scaffold as characterized by an array of analytical methods. The merits of the Pelican platform coupled to extensive process development capabilities has successfully been used for the scalable production of a wide range of complex modalities, including this novel CDR3 scaffold.

Participants

Jeff Allen, Ph.D. - Vice President, Protein Sciences , Pelican Expression Technology

SESSIONS

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ENPICOM Scientific Briefing

13:45 - 14:15
Scientific Briefing 5

Chairman's Remarks

14:25 - 14:30
Track 1: Miniprotein Engineering

Participants

Karl Dane Wittrup, Ph.D. - C.P. Dubbs Professor , Massachusetts Institute of Technology

Co-Chairs' Remarks

14:25 - 14:30
Track 2: Progress and Challenges of Computational Approaches for Antibody Discovery and Engineering

Participants

Jean-Philippe Bürckert, Ph.D. - Director, Bioinformatics, Large Molecule Discovery , Charles River Laboratories

Engineering Evolvability and Developability in Synthetic Ligand Scaffolds

14:30 - 15:00
Track 1: Miniprotein Engineering

Synthetic miniproteins are compelling scaffolds for binding ligands with advantageous modularity, physiological transport, and efficient synthesis. We have evaluated the evolvability and developability of >50 miniprotein libraries systematically varied across topology, framework, and paratope location. We evolved binders to eight targets and measured proxies of solubility, expression, and stability for millions of scaffold variants. The result elucidates biophysical factors that dictate miniprotein scaffold performance thereby empowering library and clone design.

Participants

Benjamin Hackel, Ph.D. - Professor , University of Minnesota

Mining Large Antibody Sequence Datasets for Therapeutic Antibody Discovery

14:30 - 15:00
Track 2: Progress and Challenges of Computational Approaches for Antibody Discovery and Engineering

An individual's antibody repertoire encodes information about past immune responses, and potential for disease protection. At Alchemab, we mine the antibody repertoire of individuals who are resilient to disease to discover therapeutic antibodies. Narrowing down from the vast antibody repertoire to the specific antibodies providing protection requires sophisticated computational and machine learning methods, which I will discuss in this talk.

Participants

Jake Galson, Ph.D. - Head of Technology , Alchemab Therapeutics

Mini Proteins RaPIDly Generated by LassoGraft Technology

15:00 - 15:30
Track 1: Miniprotein Engineering

Participants

Hiroaki Suga, Ph.D. - Professor of Chemistry, School of Science , University of Tokyo, Japan

Benchmarking Machine Learning Approaches for Antibody Specificity Prediction

15:00 - 15:30
Track 2: Progress and Challenges of Computational Approaches for Antibody Discovery and Engineering

Machine learning (ML) is a key technology for accurate prediction of antibody binding. However, the unavailability of large-scale benchmarking datasets limits the application of ML to antibody-specificity prediction and the benchmarking thereof. Therefore, we developed the Absolut! software suite that enables parameter-based unconstrained generation of synthetic lattice-based 3D-antibody-antigen binding structure. I will show how the Absolut! framework may be used to enable real-world relevant development and benchmarking of ML strategies for biotherapeutics design

Participants

Victor Greiff, Ph.D. - Associate Professor for Computational and Systems Immunology , The University of Oslo

Miniproteins for Targeted Radiotherapy

15:30 - 16:00
Track 1: Miniprotein Engineering

Aktis Oncology uses engineered miniproteins, folded proteins smaller than 8 kDa, to deliver radioisotopes to solid tumors. The benefits of miniproteins for imaging and targeted radiotherapy include ease of discovery by in vitro selection methods and medicinal chemistry, high affinity, fast clearance from normal tissues, and ease of production using peptide synthesis.

Participants

Dasa Lipovsek, Ph.D. - Vice President, Lead Discovery , Atkis Oncology

In Silico Antibody Optimization Enabled by Quantitative Predictions of Affinity and Naturalness of Sequence Variants by Artificial Intelligence

15:30 - 16:00
Track 2: Progress and Challenges of Computational Approaches for Antibody Discovery and Engineering

Therapeutic antibodies require optimization of binding affinity and other properties. Traditional engineering approaches are time-consuming and explore only a subset of the solution sequence space. To address these challenges, we assist antibody development with AI. Models trained with affinity measurements of sequence variants of trastuzumab could quantitatively predict the binding strength of unseen variants. Models can also score antibody sequences for naturalness by comparison with human antibody repertoires, mitigating downstream developability and immunogenicity issues.

Participants

Roberto Spreafico, PhD - Senior Director, AI-Assisted Drug Discovery , Absci Corporation

Networking Refreshment Break and Opening of Exhibit and Poster Hall

16:00 - 16:45

SESSIONS

MAIN CONFERENCE DEC.5 - 05/12/2022

Engineering Cyclic Peptides Using Yeast and mRNA Display

16:45 - 17:15
Track 1: Miniprotein Engineering

Cyclic peptides with engineered protein-binding activity and/or capable of crossing biological membranes are of great interest in biotechnology and research applications. We discuss the efficient isolation and characterization of engineered cyclic peptide binders from genetically encoded combinatorial libraries using yeast surface display and mRNA display.

Participants

Balaji Rao, PhD - Professor, Chemical and Biomolecular Engineering , North Carolina State University

Designing Clinical Antibodies with New Capabilities: Conditional Agonist/Antagonists, Logic Gates and Functional Switches

16:45 - 17:15
Track 2: Progress and Challenges of Computational Approaches for Antibody Discovery and Engineering

Earlier this year, for the first time, a computationally designed antibody entered clinical trials in patients. The antibody, a conditional agonist/antagonist, has a different function on different cells. In this talk I will introduce the AI platform that designed this antibody. I will show how Biolojic Design uses this platform to design developable antibodies with new capabilities and present the antibodies that will enter the clinic next.

Participants

Yanay Ofran, Ph.D. - Chief Executive Officer , Biolojic Design

Epitope-Specific Antibody Design via Deep Learning-Based Structural Modeling

17:15 - 17:45
Track 1: Miniprotein Engineering

We developed a generative model for immunoglobulin 3D structures, with which diverse structures can be modeled with unprecedented speed. We extended it to a protein-protein interface design pipeline that optimize not only spatial orientations but fully-flexible protein structures on the fly. This novel strategy explores neural network's capabilities in modeling dynamic structures to design high affinity binders in silico.

Participants

Possu Huang, PhD - Assistant Professor of Bioengineering , Stanford University

Exploring Antibody Design Space Using Deep Neural Networks

17:15 - 17:45
Track 2: Progress and Challenges of Computational Approaches for Antibody Discovery and Engineering

Deep learning models poised to transform the field of protein and antibody engineering. I will present two antibody-specific deep learning frameworks for controlled generation of antibody libraries enriched in antigen binders. The first framework applies hallucination to design optimal CDR sequences that fold into a target structure. The second framework applies an equivariant graph neural network to protein and antibody-antigen interfaces to predict optimal CDR sequences in the context of the antigen. Both strategies result in native-like sequences that recapitulate features and diversity observed in known binders.

Participants

Sai Pooja Mahajan, PhD - Postdoctoral Fellow , The Johns Hopkins University

Engineering of Novel Nanobody Scaffolds with Reduced Kidney Retention

17:45 - 18:15
Track 1: Miniprotein Engineering

Camelid-derived single domain antibodies, or nanobodies, have become valuable additions to traditional antibody therapies in recent years due to their low molecular weight, high affinity and specificity, and stable tertiary structure with defined binding sites. The small size of a nanobody (15 kDa) allows for clearance through the kidneys, but physicochemical properties of its scaffold can cause high renal retention. This can potentially lead to nephrotoxicity, particularly when the nanobody is being used to deliver cytotoxic agents to its target. By the directed mutagenesis of specific basic residues in the nanobody scaffold, in vitro binding to the kidney protein megalin can be reduced without any loss of affinity for the target antigen. Positron emission tomography (PET) imaging with the novel scaffolds was used to demonstrate that measuring reduction in megalin binding translates to an in vivo reduction in kidney uptake. These novel scaffolds are easily translated into a modular, randomized complementarity determining region phage display vector that retains the structure and function of the nanobody, allowing for the rapid development of new families of nanobodies with desirable pharmacokinetic properties. The development of a nanobody scaffold with reduced kidney retention will allow for the development of nanobodies with therapeutic and diagnostic applications.

Participants

Lucinda Hall - Ph.D. Student , University of Alabama at Birmingham

Machine Learning Enabled Antibody Libraries

17:45 - 18:15
Track 2: Progress and Challenges of Computational Approaches for Antibody Discovery and Engineering

Participants

Murat Tunaboylu - Chief Executive Officer , Antiverse

Opening Night Networking Reception, Exhibits and Poster Viewing

18:15 - 19:45

Please join your fellow attendees in the exhibit hall for an evening of networking while enjoying beverages and appetizers.

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
07:00	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast	**07:15** - Registration and Breakfast

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
08:00	**08:00** - Chairwoman's Welcome and Opening Remarks **08:05** - Vaccine Design for Potent and Durable Protective Immunity **08:45** - Keynote Questions **08:50** - Efgartigimod: A Novel FcRn Antagonist in the												

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
	Treatment of Autoimmune Diseases												
09:00	**09:30** - Keynote Questions **09:35** - Networking Refreshment Break												

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
10:00	**10:05** - Therapeutic Opportunities in Glycoscience **10:45** - Keynote Questions **10:50** - Computational Systems Analysis of Host Immune Functions in Pathogen Infections and Vaccines												

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
11:00	**11:30** - Keynote Questions **11:35** - Jim Huston Science Talent Award Winner Presentation												

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
12:00	**12:10** - Transition to Scientific Luncheon Briefings	**12:15** - Manufacturing Next-Generation Multi Domain Protein Pharmaceuticals Using the Leap-In Transposase® Platform	**12:15** - OmniAb Scientific Briefing	**12:15** - Twist Scientific Briefing	**12:15** - From Lead Discovery through Optimization and Validation: A Case Study in Rapid Antibody Discovery	**12:15** - Ablexis/Alivamab Scientific Briefing							

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
13:00							**13:15** - Perkin Elmer Scientific Briefing **13:45** - Human Single Domain Antibody Library Platform for Efficient Cell Therapy and Bispecific Discovery	**13:15** - Abveris Scientific Briefing **13:45** - Structure-Based Charge Calculations for Predicting Properties and Profiling Antibody Therapeutics	**13:15** - Beckman Coulter Scientific Briefing **13:45** - Overcoming the Challenges for High-Throughput Production of Diverse Custom Proteins Used in Discovery Applications	**13:15** - Roche Scientific Briefing **13:45** - Process Development and Detailed Analytical Characterization of PicobodiesTM: a Novel Antibody Format Produced using Pelican Expression TechnologyTM	**13:15** - Streamlining Antibody Discovery with the Dotmatics Biology Solution **13:45** - ENPICOM Scientific Briefing		

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
14:00												**14:25** - Chairman's Remarks **14:30** - Engineering Evolvability and Developability in Synthetic Ligand Scaffolds	**14:25** - Co-Chairs' Remarks **14:30** - Mining Large Antibody Sequence Datasets for Therapeutic Antibody Discovery

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
15:00												**15:00** - Mini Proteins RaPIDly Generated by Lasso-Graft Technology **15:30** - Miniproteins for Targeted Radiotherapy	**15:00** - Benchmarking Machine Learning Approaches for Antibody Specificity Prediction **15:30** - In Silico Antibody Optimization Enabled by Quantitative Predictions of Affinity and Naturalness of Sequence Variants by Artificial Intelli-

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

Antibody Engineering & Therapeutics US

December 4 - 8, 2022
Marriott Marquis San Diego
Delivered as a Hybrid Event

TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
													gence
16:00	**16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:45** - Engineering Cyclic Peptides Using Yeast and mRNA Display **16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall	**16:45** - Designing Clinical Antibodies with New Capabilities: Conditional Agonist/Antagonists, Logic Gates and Functional Switches **16:00** - Networking Refreshment Break and Opening of Exhibit and Poster Hall

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
17:00												**17:15** - Epitope-Specific Antibody Design via Deep Learning-Based Structural Modeling **17:45** - Engineering of Novel Nanobody Scaffolds with Reduced Kidney Retention	**17:15** - Exploring Antibody Design Space Using Deep Neural Networks **17:45** - Machine Learning Enabled Antibody Libraries

SCHEDULE

MAIN CONFERENCE DEC.5 - 05/12/2022

Antibody Engineering & Therapeutics US

December 4 - 8, 2022
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TIME	KEYNOTE PRESENTATIONS	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	SCIENTIFIC LUNCHEON BRIEFING 3	SCIENTIFIC LUNCHEON BRIEFING 4	SCIENTIFIC LUNCHEON BRIEFING 5	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: MINIPROTEIN ENGINEERING	TRACK 2: PROGRESS AND CHALLENGES OF COMPUTATIONAL APPROACHES FOR ANTIBODY DISCOVERY AND ENGINEERING
18:00	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing	**18:15** - Opening Night Networking Reception, Exhibits and Poster Viewing

SESSIONS

MAIN CONFERENCE DEC.6 - 06/12/2022

Sunrise Yoga: Wellness Event

06:30 - 07:15

Accelerated Discovery of Fully Human Lead Antibodies using ATX-GK Mouse and Beacon® Technology

07:30 - 08:00
Scientific Breakfast Briefing #1

Antibody discovery can be accelerated by 1) immunizing ATX-GK mice that produce fully human-antibodies and 2) performing high-throughput functional screening of B Cells of immunized animals using Beacon optofluidic technology. Coupling both technologies results in faster antibody discovery with the potential for selection of final leads in less than 2 months. Several thousand antibody secreting cells can be screened for binding to recombinant proteins and cells expressing the target, ligand blocking, cross-reactivity, and functionality. In this presentation by Alloy Therapeutics, we will demonstrate the isolation and functional screening of plasma cells from immunized ATX-GK mice using the Beacon. Our B Cell workflow enables functional screening in the discovery phase and accelerates the selection of antibodies with optimal lead profiles.

Participants

Dilip Challa - Scientist II, B Cell Platform , Alloy Therapeutics

Scientific Briefing 2

07:30 - 08:00
Scientific Breakfast Briefing #2

Chairman's Remarks

08:10 - 08:15
Track 1: Strategies to Engineer Cell-based Immunotherapies

Participants

Mitchell Ho, PhD - Senior Investigator, Laboratory of Molecular Biology , NIH NCI

Co-Chairs' Remarks

08:10 - 08:15
Track 2: Novel Bispecifics, Multi-specifics and Therapeutic Combinations

Participants

Janine Schuurman, Ph.D. - Vice President, Research , Genmab

James Ernst, Ph.D. - Executive Director, Head of Protein Sciences & Technology, Head of Development Sciences , Xencor

Utilizing New Approaches to Develop Next-generation CAR Therapy

08:15 - 08:45
Track 1: Strategies to Engineer Cell-based Immunotherapies

Ex vivo engineered CAR T cells demonstrated a curative potential in B cell malignancies. Lessons learned during development and clinical utilization of CAR T cell products pointed to a roadmap towards next generation treatment modalities. This presentation covers these aspects and introduces key features of future treatment modalities based on the concept of in vivo engineering of the immune system.

Participants

Adrian Bot, M.D., Ph.D. - Chief Scientific Officer and EVP, R&D , Capstan Therapeutics

Varying Affinity, Avidity and Fc Domain of Anti-CD47 bispecific antibodies enabling different anti-tumoral modes of action

08:15 - 08:45
Track 2: Novel Bispecifics, Multi-specifics and Therapeutic Combinations

We characterized a series of bispecific antibodies targeting CD47 and a tumor antigen or PD-L1. Their respective anti-CD47 arms varied in affinities. The relationship between affinity, avidity and activity was explored, as well as the Fc function of the antibody so that parallel or selective inhibition of checkpoint pathways could be achieved.

Participants

Nicolas Fischer, PhD - CEO , Light Chain Bioscience

CAR T-cell Therapy for Solid Tumors

08:45 - 09:15
Track 1: Strategies to Engineer Cell-based Immunotherapies

Novel developments in addressing the hurdles for adoptive cell therapy for solid tumors as well as combination immunotherapy potential for solid tumors will be discussed.

Participants

Prasad Adusumilli, MD - Deputy Chief and Associate Attending, Thoracic Sur Director , Memorial Sloan-Kettering Cancer Center

Three is a Magic Number: TAVO412 - A Novel Trispecific cMet x EGFR x VEGF Antibody for Difficult-to-Treat Cancers

08:45 - 09:15
Track 2: Novel Bispecifics, Multi-specifics and Therapeutic Combinations

Tavo412 is engineered to have strong receptor kinase signal pathway control, enhanced engagement of Fc effector function, and inhibition of angiogenesis to combat development of solid tumors.

Participants

Mark Chiu, Ph.D. - President and CSO , Tavotek Biotherapeutics

Engineered B Cells as a Novel Off-the-Shelf Therapy

09:15 - 09:45
Track 1: Strategies to Engineer Cell-based Immunotherapies

The ability to engineer primary human B cells to differentiate into long-lived plasma cells and secrete de novo proteins permits the creation of novel plasma cell therapies for the next generation of immunotherapies. Efficient engineering is achieved by CRISPR/Cas9 editing in combination with AAV DNA templates and results in site-specific gene insertion. Our results demonstrate a novel strategy for modifying human plasma cells to secrete therapeutic proteins.

Participants

Richard Morgan, PhD - Chief Scientific Officer , Be Biopharma

Synergistic Combination of Trispecific Natural Killer Cell Engagers with Proinflammatory Cytokines

09:15 - 09:45
Track 2: Novel Bispecifics, Multi-specifics and Therapeutic Combinations

Natural killer cells' anti-tumor immunity and low toxicity profile make them an attractive effector cell population for immunotherapy. We developed B7H3-targeted trispecific antibodies with a synergistic activation of NK cells via NKG2D agonism and simultaneous engagement of Fc gamma receptors. Additionally, the trispecific antibodies provide co-stimulation to NKG2D-expressing cytotoxic T cells. Combination of the trispecific NK cell engagers with proinflammatory cytokines further enhances the NK and T cell cytotoxicity and augments effector cell activation.

Participants

Katrina Bykova, PhD - Group Leader, Discovery Biology & Pharmacology , Xencor

SESSIONS

MAIN CONFERENCE DEC.6 - 06/12/2022

Networking Refreshment Break, Exhibit and Poster Viewing

09:45 - 10:30

CAR-based Therapeutics: Driving Towards Efficacy in Solid Tumors

10:30 - 11:00
Track 1: Strategies to Engineer Cell-based Immunotherapies

Highly effective against B cell malignancies, CAR-T cells have yet to find curative responses in solid tumors. Using lessons learned from CAR-T manufacturing, advances in treating B cell malignancies, and exploring the basic biology of solid tumor lesions, we have created a roadmap for success using tumor-tissue relevant interventions. Future success in solid tumors will hinge on effective reversal of the immunosuppressive tumor microenvironment in a lesion specific manner.

Participants

Rimas Orentas, PhD - Professor, Pediatrics , Seattle Children's

Avidity: A Rational Design Principle for Potentiated Antibody Therapeutics

10:30 - 11:00
Track 2: Novel Bispecifics, Multi-specifics and Therapeutic Combinations

Avidity is fundamental to virtually all aspects of antibody biology including antibody–antigen binding, clonal selection and effector functions. Here, we present the multiple levels of avidity interactions that trigger the overall efficacy and control of functional responses in both natural antibody biology and their therapeutic applications. Within this framework, we illustrate how avidity tuning of engineered antibody formats, including multi-targeting approaches and/or Fc engineering to enhance antibody clustering, are enabling a new wave of differentiated antibody drugs with tailored properties and novel functions, promising improved treatment options for a wide variety of diseases.

Participants

Simone Oostindie, PhD - Scientist, Early Stage Translational Research , Genmab

iPSC-derived NK cells

11:00 - 11:30
Track 1: Strategies to Engineer Cell-based Immunotherapies

Participants

Anitha Somanchi, PhD - Senior Scientist , Fate Therapeutics

Bispecific SNIPER B-Body Effectively Targets Tumor-resident Tregs

11:00 - 11:30
Track 2: Novel Bispecifics, Multi-specifics and Therapeutic Combinations

Tumor-resident Tregs are believed responsible for much of the immunosuppressive environment. We have developed a bispecific antibody that specifically targets and depletes these Tregs while leaving those in the periphery intact. Here we share the latest data as our candidate progresses toward an IND.

Participants

Jonathan Davis, Ph.D. - Vice President of Innovation and Strategy , Invenra, Inc.

Next Generation Antibody-directed T cell Therapeutics for Cancer

11:30 - 12:00
Track 1: Strategies to Engineer Cell-based Immunotherapies

Participants

Daniel Powell, PhD - Associate Professor , University of Pennsylvania

Combinatorial Approaches to Enhance Bispecific Anti-Tumor Efficacy

11:30 - 12:00
Track 2: Novel Bispecifics, Multi-specifics and Therapeutic Combinations

This presentation will describe key pre-clinical data from Regeneron's new clinical approaches to enhancing anti-tumor efficacy, focusing on the combination of costimulatory bispecific antibodies with checkpoint blockade and T cell redirecting bispecifics. In addition, data from new classes of T cell bispecifics in pre-clinical development will be discussed.

Participants

Eric Smith - Director, Bispecifics , Regeneron Pharmaceuticals

OptiMAL® - A Novel Library and Mammalian Display Platform for Antibody Discovery

12:05 - 12:35
Scientific Briefing 1

Participants

Richard Buick, PhD - Chief Technical Officer , Fusion Antibodies plc

OmniAb Scientific Briefing

12:05 - 12:35
Scientific Briefing 2

An Integrated Approach to Managing Immunogenicity Risk and Optimum Protein Design

12:05 - 12:35
Scientific Briefing 3

Integrated platforms can be used to mitigate immunogenicity risk and characterize immune responses during the drug design and development stages. ProImmune offers mutational activity mapping for optimal protein design, DC-T/T cell proliferation assays for biologic lead selection/optimization, a Mass Spectrometry assay for characterization of antigen presentation; HLA-peptide binding assays to characterize individual epitopes & undiluted whole blood cytokine storm assays.

Participants

Emilee Knowlton, PhD - Senior Immunology Sales Specialist , ProImmune Inc.

Work Smarter, Not Harder: Strategies for Greater Efficiency in Antibody Expression

12:05 - 12:35
Scientific Briefing 4

De novo gene synthesis and protein expression are established technologies that can give access to nearly any target DNA or protein sequence. In this presentation we explain how considering more than codon usage in gene optimization can boost protein expression and show the benefits of a continuous workflow, from gene to protein, to accelerate discovery and early development.

Participants

Claudia Chiocchini, PhD - Staff Scientist, R&D , Thermo Fisher Scientific

Berkeley Lights Scientific Briefing

12:05 - 12:35
Scientific Briefing 5

Networking Luncheon, Exhibit and Poster Viewing

12:35 - 13:45

Optimizing Antibody Lead Selection with Sequential Enrichment/Depletion Analysis Using AbXtract™

13:45 - 14:15
Scientific Briefing 1

Antibody discovery campaigns proceed through iterative rounds of selective pressure to achieve desired properties such as strong affinity and specificity to a desired epitope. We demonstrate how tracing clone enrichment scores and sequence features with next-generation sequencing across distinct sort populations (e.g., decreasing concentrations of antigen) from yeast display can be leveraged in predictive models to improve lead prioritization and/or study design.

Participants

Speaker: Laura Spector, PhD - Bioinformatics Scientist , Specifica Inc.

Pioneer and SpyDisplay for the Faster Generation of Therapeutic Lead Candidates

13:45 - 14:15
Scientific Briefing 2

The Pioneer library is the largest functional phage display Fab library ever made. Our extensive experience in phage display resulted in a superior library for the generation of therapeutic lead candidates. Pioneer takes advantage of a novel selection system. We will introduce the Pioneer library and the SpyDisplay selection system and will show data for antibody selection and characterization.

Participants

Francisco Ylera, PhD - R&D Team Leader , Bio-Rad Laboratories

Screening Antibody-Based Therapies for Off-target Binding: De-risking Programmes Early and Generating IND-enabling Specificity Data

13:45 - 14:15
Scientific Briefing 3

An unacceptable safety profile is a major cause of failure in drug development; learn how the Retrogenix Cell Microarray Platform mitigates this risk by identifying on- and off-target binding across a broad range of antibody-based therapeutics. By profiling against a library of over 6,300 human plasma membrane and secreted proteins expressed in human cells, including human prenatal targets, the platform generates key off-target data which informs lead selection decisions and supports global regulatory submission. Highlights to be discussed: 1) Understand how the specificity data generated with the Retrogenix Cell Microarray is used in lead candidate selection; 2) Learn how IND-enabling specificity data supports submissions to regulators as either an alternative, or in synergy with tissue cross reactivity studies and 3) An introduction to bioinformatic analysis of on- and off-targets

Participants

Brad Gartland - Senior Client Manager , Charles River Laboratories

Genovac Scientific Briefing

13:45 - 14:15
Scientific Briefing 4

Antibody Solutions Scientific Briefing

13:45 - 14:15
Scientific Briefing 5

Co-Chairs' Remarks

14:25 - 14:30
Track 1: Advances with Antibody-based Cellular Engagers

Participants

Dr. Katherine Harris, PhD - Vice President, Discovery , Amgen

Kerry Chester, PhD - Professor of Molecular Medicine , UCL Cancer Institute

Chairman's Remarks

14:25 - 14:30
Track 2: Targeted Conjugates - Antibodies and Novel Platforms

Participants

Gregory Adams, PhD - Chief Scientific Officer , Elucida Oncology

Developing CD3-based T-cell Bispecifics Against Solid Tumors for Optimal T-cell Engagement

14:30 - 15:00
Track 1: Advances with Antibody-based Cellular Engagers

This presentation will: 1) Evaluate factors that influence therapeutic index of CD3-based molecules based on platforms currently in the clinical development 2) Demonstrate that screening for a suitable antibody format and a synergistic TAA-CD3 clone pair might be required to achieve optimal T-cell engagement 3) Show how more than one lead molecule can be optimized simultaneously using Pfizer's bispecific optimization platform and 4) Showcase a final optimized molecule.

Participants

Malgorzata Nocula-Lugowska - Principal Scientist , Pfizer

PSMA-targeted Antibody-delivered Radionuclides: From Beta to Alpha

14:30 - 15:00
Track 2: Targeted Conjugates - Antibodies and Novel Platforms

Participants

Scott Tagawa, MD - Professor of Medicine and Professor of Medicine in Urology , Weill Cornell Medicine

AMG 794, A Claudin 6-Targeted Half-life Extended (HLE) Bispecific T Cell Engager (BITE®) Molecule for Non-small Cell Lung Cancer and Epithelial Ovarian Cancer

15:00 - 15:30
Track 1: Advances with Antibody-based Cellular Engagers

AMG 794 is a half-life extended BiTE® immune therapy targeting the oncofetal antigen CLDN6. AMG 794 demonstrated potent, selective activity in vitro and in vivo, with an acceptable nonclinical safety profile. Promising preclinical data support advancement of AMG 794 to a first-in-human study to explore the safety, tolerability, pharmacokinetics, and anti-tumor activity of AMG 794 in patients with CLDN6-positive advanced / metastatic non-squamous NSCLC or EOC (NCT05317078).

Participants

Elizabeth Pham, PhD - Principal Scientist , Amgen

SESSIONS

MAIN CONFERENCE DEC.6 - 06/12/2022

Small Molecule-drug Conjugates (SMDCs) and Antibody-drug Conjugates (ADCs): A Comparative Evaluation

15:00 - 15:30
Track 2: Targeted Conjugates - Antibodies and Novel Platforms

This presentation will discuss: 1) A Side-by-side comparison of the tumor targeting and therapeutic performance of SMDCs and ADCs; 2) Preclinical and clinical results with targeting agents specific to Fibroblast Activation Protein (FAP); 3) Preclinical and clinical results with targeting agents specific to Carbonic Anhydrase IX (CAIX) and 4) Combination opportunities

Participants

Dario Neri, PhD - CEO and CSO , Philogen

Treating Cancer with Gamma-delta T cell Engagers: The Gammabody Approach

15:30 - 16:00
Track 1: Advances with Antibody-based Cellular Engagers

The development of next generation bispecific gamma-delta T cell engagers (bsTCE) with a widened therapeutic window characterized by high potency and high tumor selectivity has strong potential. Lava Therapeutics' platform is based on the selective recruitment of Vγ9Vδ2 T cells for eradicating tumors. This presentation will focus on our bsTCEs designed to engage Vγ9Vδ2-T cells for treating solid cancers and discuss our clinical-stage program in prostate cancer.

Participants

Paul Parren, PhD - EVP, Head of R&D and Professor , Lava Therapeutics and Leiden University

The Wisdom of Experience: Practical Clinical Development of ADCs

15:30 - 16:00
Track 2: Targeted Conjugates - Antibodies and Novel Platforms

The current "Golden Age" of drug development has created a shortage of real world experience in biotech, Pharma, CROs and sites. Far too often the development of a clinical protocol is done without insight from those expected to execute it. This presentation focuses on and highlights the practical approaches that have served our patients and industry well over the past 40 years.

Participants

Anthony Tolcher, M.D. - Director of Clinical Research, Founder and CEO , NEXT Oncology

Networking Refreshment Break, Exhibit and Poster Viewing

16:00 - 16:45

Dual Antigen T Cell Engagers Targeting CA9

16:45 - 17:15
Track 1: Advances with Antibody-based Cellular Engagers

Participants

Sheila Singh, M.D., PhD - Principal Investigator , McMaster University

Tumor-targeted Antibody-enzyme Fusions Direct Allo- or Xeno-antigen Biosynthesis to Trigger Hyper-acute Rejection

16:45 - 17:15
Track 2: Targeted Conjugates - Antibodies and Novel Platforms

Allo- or xeno-antigens responsible for hyper-acute transplant rejection are glyco-antigens synthesized in the process of post-translational modification of plasma membrane and secreted glyco-proteins and glyco-lipids. We have developed Ab-glycosyltransferase fusion proteins capable of systemic tumor targeting and in situ synthesis of these allo- or xeno-antigens in mouse models and target cell depletion in monkeys.

Participants

Neil Bander, MD - Professor of Urology , Cornell UNIV Medical College

Bispecific Antibodies Increase the Therapeutic Window of CD40 Agonists through Selective Dendritic Cell Targeting

17:15 - 17:45
Track 1: Advances with Antibody-based Cellular Engagers

I'll describe our approach of cell-selective bispecific agonistic antibodies as a drug platform to bypass the dose-limiting toxicities of agonistic antibodies used for cancer immunotherapy. We designed bispecific antibodies that target CD40 activation preferentially to dendritic cells, the cells leading to antitumor activity but not toxicity by these agonists. These bispecific reagents demonstrate a superior safety profile compared to their parental CD40 monospecific antibody while triggering potent antitumor activity.

Participants

Rony Dahan, Ph.D. - Assistant Professor, Department of Systems Immunology , Weizmann Institute of Science

Targeted and Non-targeted C'Dot Drug Conjugates (CDCs) for the Treatment of Metastatic Brain Tumors

17:15 - 17:45
Track 2: Targeted Conjugates - Antibodies and Novel Platforms

CDCs are ultra-small (6-7 nm) nanoparticle drug conjugates capable of efficient targeting and penetration of tumors with limited normal tissue exposure. The ability of CDCs to penetrate tumor-disrupted blood brain barrier and localize in that tumor makes this an attractive platform for the treatment of these difficult to treat metastases.

Participants

Gregory Adams, PhD - Chief Scientific Officer , Elucida Oncology

NK Cell Engagers

17:45 - 18:15
Track 1: Advances with Antibody-based Cellular Engagers

Participants

Eric Vivier, Ph.D. - SVP and Chief Scientific Officer , Innate Pharma

Late Breaking Presentation

17:45 - 18:15
Track 2: Targeted Conjugates - Antibodies and Novel Platforms

Networking Reception, Exhibit and Poster Viewing

18:15 - 19:15

SCHEDULE

MAIN CONFERENCE DEC.6 - 06/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: STRATEGIES TO ENGINEER CELL-BASED IMMUNOTHERAPIES	TRACK 2: NOVEL BISPECIFICS, MULTI-SPECIFICS AND THERAPEUTIC COMBINATIONS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: ADVANCES WITH ANTIBODY-BASED CELLULAR ENGAGERS	TRACK 2: TARGETED CONJUGATES - ANTIBODIES AND NOVEL PLATFORMS
06:00	**06:30** - Sunrise Yoga: Wellness Event	**06:30** - Sunrise Yoga: Wellness Event	**06:30** - Sunrise Yoga: Wellness Event	**06:30** - Sunrise Yoga: Wellness Event	**06:30** - Sunrise Yoga: Wellness Event	**06:30** - Sunrise Yoga: Wellness Event	**06:30** - Sunrise Yoga: Wellness Event	**06:30** - Sunrise Yoga: Wellness Event	**06:30** - Sunrise Yoga: Wellness Event	**06:30** - Sunrise Yoga: Wellness Event	**06:30** - Sunrise Yoga: Wellness Event
07:00	**07:30** - Accelerated Discovery of Fully Human Lead Antibodies using ATX-GK Mouse and Beacon® Technology	**07:30** - Scientific Briefing 2									

SCHEDULE

MAIN CONFERENCE DEC.6 - 06/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: STRATEGIES TO ENGINEER CELL-BASED IMMUNOTHERAPIES	TRACK 2: NOVEL BISPECIFICS, MULTI-SPECIFICS AND THERAPEUTIC COMBINATIONS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: ADVANCES WITH ANTIBODY-BASED CELLULAR ENGAGERS	TRACK 2: TARGETED CONJUGATES - ANTIBODIES AND NOVEL PLATFORMS
08:00			**08:10** - Chairman's Remarks **08:15** - Utilizing New Approaches to Develop Next-generation CAR Therapy **08:45** - CAR T-cell Therapy for Solid Tumors	**08:10** - Co-Chairs' Remarks **08:15** - Varying Affinity, Avidity and Fc Domain of Anti-CD47 bispecific antibodies enabling different anti-tumoral modes of action **08:45** - Three is a Magic Number: TAVO412 - A Novel Trispecific cMet x EGFR x VEGF Antibody for Difficult-to-Treat Cancers						

SCHEDULE

MAIN CONFERENCE DEC.6 - 06/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: STRATEGIES TO ENGINEER CELL-BASED IMMUNOTHERAPIES	TRACK 2: NOVEL BISPECIFICS, MULTI-SPECIFICS AND THERAPEUTIC COMBINATIONS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: ADVANCES WITH ANTIBODY-BASED CELLULAR ENGAGERS	TRACK 2: TARGETED CONJUGATES - ANTIBODIES AND NOVEL PLATFORMS
09:00	**09:45** - Networking Refreshment Break, Exhibit and Poster Viewing	**09:45** - Networking Refreshment Break, Exhibit and Poster Viewing	**09:15** - Engineered B Cells as a Novel Off-the-Shelf Therapy **09:45** - Networking Refreshment Break, Exhibit and Poster Viewing	**09:15** - Synergistic Combination of Trispecific Natural Killer Cell Engagers with Proinflammatory Cytokines **09:45** - Networking Refreshment Break, Exhibit and Poster Viewing	**09:45** - Networking Refreshment Break, Exhibit and Poster Viewing	**09:45** - Networking Refreshment Break, Exhibit and Poster Viewing	**09:45** - Networking Refreshment Break, Exhibit and Poster Viewing	**09:45** - Networking Refreshment Break, Exhibit and Poster Viewing	**09:45** - Networking Refreshment Break, Exhibit and Poster Viewing	**09:45** - Networking Refreshment Break, Exhibit and Poster Viewing	**09:45** - Networking Refreshment Break, Exhibit and Poster Viewing
10:00			**10:30** - CAR-based Therapeutics: Driving Towards Efficacy in Solid Tumors	**10:30** - Avidity: A Rational Design Principle for Potentiated Antibody Therapeutics							

SCHEDULE

MAIN CONFERENCE DEC.6 - 06/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: STRATEGIES TO ENGINEER CELL-BASED IMMUNOTHERAPIES	TRACK 2: NOVEL BISPECIFICS, MULTI-SPECIFICS AND THERAPEUTIC COMBINATIONS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: ADVANCES WITH ANTIBODY-BASED CELLULAR ENGAGERS	TRACK 2: TARGETED CONJUGATES - ANTIBODIES AND NOVEL PLATFORMS
11:00			**11:00** - iPSC-derived NK cells **11:30** - Next Generation Antibody-directed T cell Therapeutics for Cancer	**11:00** - Bispecific SNIPER B-Body Effectively Targets Tumor-resident Tregs **11:30** - Combinatorial Approaches to Enhance Bispecific Anti-Tumor Efficacy							
12:00	**12:35** - Networking Luncheon, Exhibit and Poster Viewing	**12:35** - Networking Luncheon, Exhibit and Poster Viewing	**12:35** - Networking Luncheon, Exhibit and Poster Viewing	**12:35** - Networking Luncheon, Exhibit and Poster Viewing	**12:05** - OptiMAL® - A Novel Library and Mammalian Display Platform for Antibody Discovery **12:35** - Networking Luncheon, Exhibit and Poster Viewing	**12:05** - OmniAb Scientific Briefing **12:35** - Networking Luncheon, Exhibit and Poster Viewing	**12:05** - An Integrated Approach to Managing Immunogenicity Risk and Optimum Protein Design **12:35** - Networking Luncheon, Exhibit and Poster Viewing	**12:05** - Work Smarter, Not Harder: Strategies for Greater Efficiency in Antibody Expression **12:35** - Networking Luncheon, Exhibit and Poster Viewing	**12:05** - Berkeley Lights Scientific Briefing **12:35** - Networking Luncheon, Exhibit and Poster Viewing	**12:35** - Networking Luncheon, Exhibit and Poster Viewing	**12:35** - Networking Luncheon, Exhibit and Poster Viewing

SCHEDULE

MAIN CONFERENCE DEC.6 - 06/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: STRATEGIES TO ENGINEER CELL-BASED IMMUNOTHERAPIES	TRACK 2: NOVEL BISPECIFICS, MULTI-SPECIFICS AND THERAPEUTIC COMBINATIONS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: ADVANCES WITH ANTIBODY-BASED CELLULAR ENGAGERS	TRACK 2: TARGETED CONJUGATES - ANTIBODIES AND NOVEL PLATFORMS
13:00					**13:45** - Optimizing Antibody Lead Selection with Sequential Enrichment/Depletion Analysis Using AbXtract™	**13:45** - Pioneer and SpyDisplay for the Faster Generation of Therapeutic Lead Candidates	**13:45** - Screening Antibody-Based Therapies for Off-target Binding: De-risking Programmes Early and Generating IND-enabling Specificity Data	**13:45** - Genovac Scientific Briefing	**13:45** - Antibody Solutions Scientific Briefing		
14:00										**14:25** - Co-Chairs' Remarks **14:30** - Developing CD3-based T-cell Bispecifics Against Solid Tumors for Optimal T-cell Engagement	**14:25** - Chairman's Remarks **14:30** - PSMA-targeted Antibody-delivered Radionuclides: From Beta to Alpha

SCHEDULE

MAIN CONFERENCE DEC.6 - 06/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: STRATEGIES TO ENGINEER CELL-BASED IMMUNOTHERAPIES	TRACK 2: NOVEL BISPECIFICS, MULTI-SPECIFICS AND THERAPEUTIC COMBINATIONS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: ADVANCES WITH ANTIBODY-BASED CELLULAR ENGAGERS	TRACK 2: TARGETED CONJUGATES - ANTIBODIES AND NOVEL PLATFORMS
15:00										**15:00** - AMG 794, A Claudin 6-Targeted Half-life Extended (HLE) Bispecific T Cell Engager (BITE®) Molecule for Non-small Cell Lung Cancer and Epithelial Ovarian Cancer **15:30** - Treating Cancer with Gamma-delta T cell Engagers: The Gammabody Approach	**15:00** - Small Molecule-drug Conjugates (SMDCs) and Antibody-drug Conjugates (ADCs): A Comparative Evaluation **15:30** - The Wisdom of Experience: Practical Clinical Development of ADCs

SCHEDULE

MAIN CONFERENCE DEC.6 - 06/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: STRATEGIES TO ENGINEER CELL-BASED IMMUNOTHERAPIES	TRACK 2: NOVEL BISPECIFICS, MULTI-SPECIFICS AND THERAPEUTIC COMBINATIONS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: ADVANCES WITH ANTIBODY-BASED CELLULAR ENGAGERS	TRACK 2: TARGETED CONJUGATES - ANTIBODIES AND NOVEL PLATFORMS
16:00	**16:00** - Networking Refreshment Break, Exhibit and Poster Viewing	**16:00** - Networking Refreshment Break, Exhibit and Poster Viewing	**16:00** - Networking Refreshment Break, Exhibit and Poster Viewing	**16:00** - Networking Refreshment Break, Exhibit and Poster Viewing	**16:00** - Networking Refreshment Break, Exhibit and Poster Viewing	**16:00** - Networking Refreshment Break, Exhibit and Poster Viewing	**16:00** - Networking Refreshment Break, Exhibit and Poster Viewing	**16:00** - Networking Refreshment Break, Exhibit and Poster Viewing	**16:00** - Networking Refreshment Break, Exhibit and Poster Viewing	**16:45** - Dual Antigen T Cell Engagers Targeting CA9 **16:00** - Networking Refreshment Break, Exhibit and Poster Viewing	**16:45** - Tumor-targeted Antibody-enzyme Fusions Direct Allo- or Xeno-antigen Biosynthesis to Trigger Hyperacute Rejection **16:00** - Networking Refreshment Break, Exhibit and Poster Viewing

SCHEDULE

MAIN CONFERENCE DEC.6 - 06/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: STRATEGIES TO ENGINEER CELL-BASED IMMUNOTHERAPIES	TRACK 2: NOVEL BISPECIFICS, MULTI-SPECIFICS AND THERAPEUTIC COMBINATIONS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: ADVANCES WITH ANTIBODY-BASED CELLULAR ENGAGERS	TRACK 2: TARGETED CONJUGATES - ANTIBODIES AND NOVEL PLATFORMS
17:00										**17:15** - Bispecific Antibodies Increase the Therapeutic Window of CD40 Agonists through Selective Dendritic Cell Targeting **17:45** - NK Cell Engagers	**17:15** - Targeted and Non-targeted C'Dot Drug Conjugates (CDCs) for the Treatment of Metastatic Brain Tumors **17:45** - Late Breaking Presentation
18:00	**18:15** - Networking Reception, Exhibit and Poster Viewing	**18:15** - Networking Reception, Exhibit and Poster Viewing	**18:15** - Networking Reception, Exhibit and Poster Viewing	**18:15** - Networking Reception, Exhibit and Poster Viewing	**18:15** - Networking Reception, Exhibit and Poster Viewing	**18:15** - Networking Reception, Exhibit and Poster Viewing	**18:15** - Networking Reception, Exhibit and Poster Viewing	**18:15** - Networking Reception, Exhibit and Poster Viewing	**18:15** - Networking Reception, Exhibit and Poster Viewing	**18:15** - Networking Reception, Exhibit and Poster Viewing	**18:15** - Networking Reception, Exhibit and Poster Viewing

SESSIONS

MAIN CONFERENCE DEC. 7 - 07/12/2022

Fun Run on San Diego Harbor

On demand

AI Application in Cell Line Development and Culture Media Development

07:30 - 08:00
Scientific Breakfast Briefing #1

Great Bay Bio (GBB) is a Hong Kong based innovative biotech company. We are using AI technology to improve the bioprocessing in the drug development. GBB's AI + Bioprocessing platforms are able to significantly reduce the development time and workload. Two AI enabling bioprocessing platforms will be presented: 1. AI + cell line development (AIfaCell®); 2. AI + cell culture media development (AIfaMedX®).

Participants

Michael Chen, PhD - CEO & Co-founder , Great Bay Bio

Scientific Breakfast Briefing #2

07:30 - 08:00
Scientific Breakfast Briefing #2

Chairwoman's Remarks

08:10 - 08:15
Track 1: Advancing Antibody Therapeutics in Immuno-oncology

Participants

Jennifer Cochran, Ph.D. - Professor and Department Chair of Bioengineering , Stanford University

Co-Chairs' Remarks

08:10 - 08:15
Track 2: Engineering the Fc Region to Improve Therapeutic Effects

Participants

Sally Ward, PhD - Professor and Director , University of Southampton

Dr. Robert de Jong - Director Antibody Research & Technology , Genmab

Engineering of Human Sialidase Neu2 as a Novel Immunotherapy for Degrading Immunosuppressive Sialoglycans to Enhance Antitumor T-Cell Immunity

08:15 - 08:45
Track 1: Advancing Antibody Therapeutics in Immuno-oncology

Sialoglycans have emerged as a new dimension of immune checkpoints. To degrade immunosuppressive sialoglycans for cancer treatment, we developed a first-in-class drug candidate (Bi-Sialidase), consisting of an engineered human sialidase (Neu2) Fc fusion. We also identified a new mechanism of action that desialylation of exhausted T cells restores their function. Bi-Sialidase single-showed single-agent antitumor activity in syngeneic mouse tumor models and demonstrated a wide safety margin in rat and monkey GLP toxicity studies.

Participants

Li Peng, Ph.D. - Chief Scientific Officer , Palleon Pharmaceuticals

Fc Engineering for Maximizing Soluble Target Antigen Sweeping Efficacy by Enhanced FcγRIIb Binding and Charge Modulation

08:15 - 08:45
Track 2: Engineering the Fc Region to Improve Therapeutic Effects

To maximize the efficacy of soluble target antigen sweeping, novel Fc engineering by combining enhanced FcγRIIb binding and charge modulation with pH dependent antigen binding has been explored. I will talk how in vivo sweeping efficacy can be maximized while maintaining good pharmacokinetic properties by Fc engineering.

Participants

Kenta Haraya, Ph.D. - Group Manager Research Division, Discovery Biologics , Chugai Pharmaceutical Co., Ltd.

KVA12.1 a VISTA Blocking Immunotherapy

08:45 - 09:15
Track 1: Advancing Antibody Therapeutics in Immuno-oncology

VISTA highly expressed on intra-tumoral myeloid cells is a negative regulator suppressing T cell activation. VISTA expression correlates with poor survival in cancer patients. KVA12.1 our fully human anti-VISTA clinical lead has an extended PK and a unique epitope. It induces strong anti-tumor response as a single agent or in combo-therapies with anti-PD1. KVA12.1 is safe and does not exhibit any sign of CRS. Clinical Trial will start end of 2022.

Participants

Thierry Guillaudeux - Chief Scientific Officer , Kineta Inc

Healthy Volunteer Data with ARGX-117, A Sweeping Anti-C2 Antibody

08:45 - 09:15
Track 2: Engineering the Fc Region to Improve Therapeutic Effects

ARGX-117 is a human IgG1 monoclonal antibody designed to reduce tissue inflammation resulting from activation of the classical and lectin complement pathways. It binds and inhibits C2 in a pH- and calcium-dependent fashion. In the Fc, mutations to reduce effector functions and for half-life extension were introduced. A phase 1 study in healthy human subjects is currently ongoing to investigate the safety, tolerability, pharmacokinetics (PK), pharmacodynamics (PD), and immunogenicity of single and multiple ascending dose levels of ARGX-117. An interim analysis of this study has been conducted and will be presented.

Participants

Karen Silence, PhD - Head Preclinical Product Development , Argenx

Discovery and Development of a Novel Antibody Therapeutic Against CD161

09:15 - 09:45
Track 1: Advancing Antibody Therapeutics in Immuno-oncology

CD161 has historically been recognized as an inhibitor of NK cells. Groundbreaking work published in Cell in 2021 revealed it to be an inhibitory target on T cells, and a compelling opportunity for therapeutic intervention in immuno-oncology. Immunitas is developing a novel antibody, IMT-009, against this target. This talk will focus on the discovery of the target, the development progress, and clinical plans.

Participants

Amanda Wagner - CEO , Immunitas Therapeutics

FcγRIIIa Glycosylation Affects Antibody-binding Affinity

09:15 - 09:45
Track 2: Engineering the Fc Region to Improve Therapeutic Effects

Our laboratory identified specific Fc γ receptor IIIa glycoforms that bind IgG1 Fc with high affinity. Curiously, this is the only Fc γ receptor we believe to demonstrate a strong dependence on glycan composition. We recently determined that N-glycan processing also affects antibody-binding affinity at the cell surface and effector cell activation. This remarkable affinity enhancement is due to a single N-glycosylation that affects receptor structure and motion.

Participants

Adam Barb, Ph.D. - Associate Professor, Biochemistry and Molecular Biology , University of Georgia

Networking Refreshment Break, Exhibit and Poster Viewing

09:45 - 10:30
Track 1: Advancing Antibody Therapeutics in Immuno-oncology

Networking Refreshment Break, Exhibit and Poster Viewing

09:45 - 10:30
Track 2: Engineering the Fc Region to Improve Therapeutic Effects

Boosting Macrophage Appetites for Cancer Immunotherapy

10:30 - 11:00
Track 1: Advancing Antibody Therapeutics in Immuno-oncology

Cancer cells evade clearance by intratumoral macrophages through the overexpression of anti-phagocytic, macrophage checkpoint molecules called “don’t eat me” signals. Here, we present a functional screening platform which identifies tumor-specific regulators of macrophage function and the discovery of a novel macrophage checkpoint, CD24. Collectively, this work suggests a new paradigm that innate immune checkpoints are redundant and employed in a tumor-specific manner and makes clear the need to measure the collective expression of these 'don’t eat me' signals in order to optimize responses to both innate and adaptive immunotherapies.

Participants

Amira Barkal, MD, PhD - Principal Founder and Interim CEO , Pheast Therapeutics

Antibodies Fc-engineered for Cell-surface Specific Assembly – Variations of IgG Hexamers and Agonistic Applications

10:30 - 11:00
Track 2: Engineering the Fc Region to Improve Therapeutic Effects

Participants

Wilhem Leconet, PhD - Senior Scientist, Antibody Research , Genmab

Therapeutic Antibody Approaches to Myeloid Tuning of the Tumor Microenvironment

11:00 - 11:30
Track 1: Advancing Antibody Therapeutics in Immuno-oncology

Suppressive myeloid cells within the tumor microenvironment (TME) can be associated with poor prognosis in a number of cancer indications. Therapies that shift the balance of inhibitory myeloid cells towards a proinflammatory phenotype are expected to positively impact anti-tumor responses. Pionyr’s Myeloid Tuning approach involves altering the composition and function of myeloid cells in the TME to promote anti-tumor responses. This presentation will discuss antibody therapeutic approaches for Myeloid Tuning.

Participants

Linda Liang, PhD - Head of Protein Sciences and Antibody Generation , Pionyr Immunotherapeutics

IgE Class Antibody Immunotherapy for Solid Tumors

11:00 - 11:30
Track 2: Engineering the Fc Region to Improve Therapeutic Effects

Monoclonal antibodies for cancer treatment are designed as IgGs. Antibodies of the IgE class are known for pathogenic roles in allergies and contributions to anti-parasitic immune responses. IgE can exert immunological effects in tissues through very high affinity for cognate Fcε receptors. We evaluated whether engineered antibodies with IgE Fc regions may activate immune cells against tissue-resident tumors. We demonstrated that IgE directed against cancer antigens restricted tumor growth through pro-inflammatory immunological mechanisms and macrophage recruitment in the tumor microenvironment. The first-in-class IgE antibody has been translated to clinical testing.

Participants

Sophia Karagiannis, PhD - Professor of Translational Cancer Immunology , King's College London School of Medicine

Discovery of EPB-001, a potent Anti-Siglec15 mAb that reverses immune suppression for cancer immunotherapy

11:30 - 12:00
Track 1: Advancing Antibody Therapeutics in Immuno-oncology

The success of immunotherapy has remained limited to certain cancers and subsets of patients. Many types of cancers either show no response or become resistant to treatment. Several suppressive immune cells have played an important role in limiting immune check point treatment. We aim to develop multifunctional immunotherapies to harmonize immune cell activation for overcoming tumor resistance. Siglec15 is a novel immune checkpoint expressed on tumor associated macrophages (TAM) and upregulated in some solid tumors. We have discovered a fully human anti-Siglec15 antibody (EPB-001) through mRNADisTM technology. EPB-001 binds to a unique epitope, potentiates strong anti-tumor activity by blocking TAM interaction with T cells and reversing immune suppression. EPB-001 could be a promising therapeutic for tumors that are non-responding or resistant to immune check point inhibitor treatment. In this presentation, we will share the discovery and pre-clinical studies of EPB-001.

Participants

Yan Chen, Ph.D. - Founder & Chief Executive Officer , Elpis Biopharmaceuticals

IgM-based Therapeutics

11:30 - 12:00
Track 2: Engineering the Fc Region to Improve Therapeutic Effects

Participants

Bruce Keyt, Ph.D. - Chief Scientific Officer , IGM Biosciences Inc

Genscript Scientific Briefing

12:00 - 12:30
Scientific Briefing 1

Accelerated Antibody Discovery: The Intersection of Hyper Throughput and Function First Screening

12:00 - 12:30
Scientific Briefing 2

Overcoming Process Bottlenecks in Antibody Discovery through End-to-end Automated Synthetic Biology Solutions

12:00 - 12:30
Scientific Briefing 3

Current antibody drug discovery pipelines are challenged by accelerated timelines, cost of R&D, screening and characterization processes as well as by increasingly challenging targets. Addressing difficult target classes in turn, requires screening large pools of lead candidate antibodies and highlights the unaddressed throughput bottleneck downstream of lead generation - that is the synthesis and cloning of lead molecules for screening and characterization. This challenge can be further compounded if there is a need for further antibody engineering and optimization. We will present exciting updates on our fully automated synthetic biology workstation, the BioXp system that can synthesize and clone gene fragments as well as generate high-fidelity libraries, and mRNA from DNA sequence. We will showcase use of the technology for rapidly synthesizing antibody variable regions for screening and high-fidelity libraries for lead optimization. The system has been successfully deployed and utilized to optimize workflows for screening and characterization of antibody fragments and mimetics. This talk will discuss the technology, and its utilization in overcoming bottlenecks and advancing antibody discovery programs.

Participants

Daniel Gibson, Ph.D. - Chief Technology Officer , Codex DNA

Benchling Scientific Briefing

12:00 - 12:30
Scientific Briefing 4

Revolka Scientific Briefing

12:00 - 12:30
Scientific Briefing 5

Networking Luncheon, Last Chance for Exhibit and Poster Viewing

12:30 - 14:10

Co-Chairs' Remarks

14:10 - 14:15
Track 1: Remodeling the Tumor Microenvironment for Cancer Therapy

Participants

Jonathan Sockolosky, PhD - Scientist, Department of Antibody Engineering , Genentech

Jamie Spangler, Ph.D. - Assistant Professor , Johns Hopkins University

Co-Chairs' Remarks

14:10 - 14:15
Track 2: Novel Targets for Antibody Therapeutics

Participants

James Larrick, M.D., Ph.D. - Managing Director and Chief Medical Officer , Panorama Research, Inc.

Vaughn Smider, M.D., Ph.D. - President , Applied Biomedical Science Institute

Selective Activation of CD8+ T cells by AB821, a CD8-targeted IL-21, Results in Enhanced Anti-tumor Efficacy and Safety

14:15 - 14:45
Track 1: Remodeling the Tumor Microenvironment for Cancer Therapy

IL-21 is a pleiotropic cytokine that can induce both immune stimulatory and suppressive effects. Such pleiotropy along with large pharmacological sink and low bioavailability limit its clinical utility in oncology. To maximize the efficacy potential of IL-21, we have developed AB821, a cis-targeted IL-21 that selectively activates CD8+ T cells and exhibits improved bioavailability. Preclinically, AB821 demonstrates promising anti-tumor activity with good tolerability.

Participants

Andy Yeung, Ph.D. - Chief Technology Officer , Asher Biotherapeutics

Therapeutic Antibodies to Complex Receptors – Exploring the Urokinase Plasminogen Activator Receptor

14:15 - 14:45
Track 2: Novel Targets for Antibody Therapeutics

An antibody approach has been taken to modulating the pro inflammatory effects of uPAR/suPAR, a kidney toxin which combined with other injuries increases disease severity in acute kidney injury and chronic kidney disease. uPAR has a large and diverse interactome that is modulated genetically with different isoforms and proteolytically with different fragments having differing effects in health and disease. Judicious epitope selection allows for multiple potential mechanisms of drug action

Participants

Alex Duncan - Chief Scientific Officer , Walden Biosciences

Engineered Cytokines for Cancer Immunotherapy

14:45 - 15:15
Track 1: Remodeling the Tumor Microenvironment for Cancer Therapy

Native cytokines are typically short acting, high potency molecules that make them difficult to administer as therapeutics. We demonstrate that by lowering their potency, we can safely increase the exposure and overall efficacy of proinflammatory cytokines like IL15 and IL12. For IL18, we show how stability optimization, potency reduction, and IL18BP knockout leads to a longer lasting and more efficacious biologic for oncology.

Participants

Alex Nisthal, PhD - Group Leader, Protein Engineering , Xencor

The Truth About IgA?

14:45 - 15:15
Track 2: Novel Targets for Antibody Therapeutics

Immunoglobulin A is the second prevalent antibody in serum. Its function remains nonetheless elusive. In this presentation the putative role of serum IgA will be discussed. Additionally, the contribution of auto-IgA in pathology of autoimmune diseases will be addressed as well as therapeutic options to reduce tissue damage and disease.

Participants

Marjolein van Egmond - Professor of Oncology and Inflammation , Amsterdam University Medical Center

Intratumorally Anchored Cytokine Immunotherapy

15:15 - 15:45
Track 1: Remodeling the Tumor Microenvironment for Cancer Therapy

On-target, off-tumor toxicity severely limits systemic dosing of cytokines and agonist antibodies for cancer. Intratumoral administration is increasingly being explored to mitigate this problem. Full exploitation of this mode of administration must include a mechanism for sustained retention of the drug; otherwise, rapid diffusion out of the tumor eliminates any advantage. We will present recent work from our lab developing new molecules and design principles for such intratumoral immune therapeutics.

Participants

Karl Dane Wittrup, Ph.D. - C.P. Dubbs Professor , Massachusetts Institute of Technology

Mechanisms of Reversal of Acute Type 1 Diabetes with a TLR-4/MD-2 Monoclonal Antibody

15:15 - 15:45
Track 2: Novel Targets for Antibody Therapeutics

Type 1 diabetes (T1D) is a currently uncurable autoimmune disease that destroys the insulin-producing pancreatic beta cells. We have reversed acute type 1 diabetes (T1D) (hyperglycemia, polyuria and weight loss) in nonobese diabetic (NOD) mice by treatment with an agonistic TLR4/MD-2 specific monoclonal antibody ("TLR4-Ab"). TLR4 is a paradigmatic pattern recognition receptor (PRR) in the innate immune system which is highly conserved between mice and humans. 90% of mice treated with TLR4-Ab had a clinical response (delay in progression to endstage T1D) and 70% had permanent reversal of T1D. Successfully treated mice demonstrate decreased islet inflammation and preserved insulin staining of islet beta cells. Amnis imaging studies show prolonged sequestration of the IgG3 antibody in the early endosome compared to the TLR-4 agonist LPS, which cannot reverse T1D. Signaling studies demonstrate down-regulation of inflammatory signaling components and cytokines, and enhanced suppression of the NF-KB pathway. Transcriptome analysis of TLR4-Ab treated mice demonstrates upregulation of genes associated with CD11b+ Myeloid-derived suppressor cells (MDSC). TLR4-Ab significantly increases MDSC cells that can suppress T cells and reverse acute disease upon adaptive transfer. Finally, we have generated human anti-TLR4 antibodies for application to human T1D, creating the possibility of a novel therapy targeting innate immunity in human T1D.

Participants

William Ridgway, MD - Chief, Division of Rheumatology, Allergy, and Clinical Immunology and The Jack and Donald Chia Endowed Professor of Medicine , University of California, Davis, School of Medicine

Networking Refreshment Break

15:45 - 16:15

Modulating Immune Cell Migration As An Immunotherapy for Cancer

16:15 - 16:45
Track 1: Remodeling the Tumor Microenvironment for Cancer Therapy

Migration of cytotoxic CD8+ T cells into the tumor stroma is a hallmark of anti-tumor immunity, but accumulation of suppressive leukocytes (e.g., some subsets of myeloid cells) can hamper T cell functions. I will be discussing work that contributed to defining mechanisms that regulate leukocyte migration to tumors, via post-translational modification of chemokines, and how these pathways can be modulated in a manner that improves anti-tumor immunity and responses to immunotherapy.

Participants

Rosa Barreira DaSilva, PhD - Senior Scientist, Cancer Immunology , Genentech

Anti-CD270 Antibody Checkpoint Inhibitor for Cancer Treatment: Swing Around Patient's CD270 Immunosuppressive Disadvantage

16:15 - 16:45
Track 2: Novel Targets for Antibody Therapeutics

CD270 has three known ligands, of which both CD160 and BTLA are co-inhibitory, whereas LIGHT is co-stimulatory to T cells. High expression of the CD270 on tumors strongly correlates with poor survival and an immunosuppressive TME. Anti-CD270 antibodies were selected that specifically inhibit the interaction with immune suppressive ligands CD160 and BTLA but do not inhibit the immune stimulating CD270-LIGHT interaction.

Participants

Louis Boon, PhD - Chief Scientific Officer and Board Member , JJP Biologics

Toll-Like Receptor (TLR9) Agonist Antibody Conjugates For Targeted Immune Activation

16:45 - 17:15
Track 1: Remodeling the Tumor Microenvironment for Cancer Therapy

Tallac Therapeutics developed a novel Toll-like Receptor Agonist Antibody Conjugate (TRAAC) platform to deliver a potent TLR9 agonist for targeted immune activation. Our lead program is TAC-001, a Phase I stage immune targeting molecule, which has robust single agent activity in checkpoint inhibitor resistant and refractory murine tumor models. Tallac pipeline also includes other approaches such as ALTA-002 (Sirpa TRAAC) for tumor/immune targeting and Nectin-4 TRAAC for tumor targeting.

Participants

Min Li, PhD - Director, Protein Science , Tallac Therapeutics

Targeting alpha5 Integrin in ALS

16:45 - 17:15
Track 2: Novel Targets for Antibody Therapeutics

a5 integrin is expressed in motor areas of the spinal cord in ALS, and in peripheral motor nerve roots. Targeting a5 integrin in the SOD model of ALS provides a survival benefit and improved motor functioning. Plans to move these findings to a clinical trial will be discussed.

Participants

Lawrence Steinman, MD - Zimmermann Professor of Neurology & Neurological Sciences , Stanford University

Diet and Immunity in the Tumor Niche

17:15 - 17:45
Track 1: Remodeling the Tumor Microenvironment for Cancer Therapy

Obesity is a major cancer risk factor. Even though obesity is rising in prevalence worldwide, how changes in systemic metabolism impact the process of tumorigenesis is still incompletely understood. By generating a single-cell resolution atlas of cellular metabolism in the tumor niche, we reveal that diet-induced obesity alters the local interplay between cells, which impairs the control of tumors by the immune system.

Participants

Alison Ringel, PhD - Assistant Professor, Department of Biology, MIT , Ragon Institute of MIT, MGH and Harvard

Ultralong CDR3-based Knobs: The Smallest Antibody Fragment

17:15 - 17:45
Track 2: Novel Targets for Antibody Therapeutics

Cow antibodies produce very unusual “ultralong” CDR3 regions. We have shown that these CDR3s can be produced as tiny (~5 kDa), highly stable, fragments and maintain binding and functional activity against their target antigen.

Participants

Vaughn Smider, M.D., Ph.D. - President , Applied Biomedical Science Institute

Antibodies to Watch in 2023

17:45 - 18:30
Special Session of the Antibody Society

The “Antibodies to watch” talks and papers focus on antibody therapeutics in late-stage clinical studies, as well as those is regulatory review and recently approved in the US and European Union. These topics will be discussed, along with trends observed in the burgeoning early-stage pipeline. Popular formats and mechanisms of action, as well as popular and obscure targets, for antibody therapeutics that recently entered the clinical pipeline will be discussed.

Participants

Speaker: Janice Reichert, Ph.D. - Editor-in-Chief / Executive Director / Managing Director , mAbs / The Antibody Society / Reichert Biotechnology Consulting LLC

Antibody Society Special Session Moderator: Sally Ward, PhD - Professor and Director , University of Southampton

SCHEDULE

MAIN CONFERENCE DEC. 7 - 07/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: ADVANCING ANTIBODY THERAPEUTICS IN IMMUNO-ONCOLOGY	TRACK 2: ENGINEERING THE FC REGION TO IMPROVE THERAPEUTIC EFFECTS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: REMODELING THE TUMOR MICROENVIRONMENT FOR CANCER THERAPY	TRACK 2: NOVEL TARGETS FOR ANTIBODY THERAPEUTICS	SPECIAL SESSION OF THE ANTIBODY SOCIETY
06:00	**On demand** - Fun Run on San Diego Harbor	**On demand** - Fun Run on San Diego Harbor	**On demand** - Fun Run on San Diego Harbor	**On demand** - Fun Run on San Diego Harbor	**On demand** - Fun Run on San Diego Harbor	**On demand** - Fun Run on San Diego Harbor	**On demand** - Fun Run on San Diego Harbor	**On demand** - Fun Run on San Diego Harbor	**On demand** - Fun Run on San Diego Harbor	**On demand** - Fun Run on San Diego Harbor	**On demand** - Fun Run on San Diego Harbor	**On demand** - Fun Run on San Diego Harbor
07:00	**07:30** - AI Application in Cell Line Development and Culture Media Development	**07:30** - Scientific Breakfast Briefing #2										

SCHEDULE

MAIN CONFERENCE DEC. 7 - 07/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: ADVANCING ANTIBODY THERAPEUTICS IN IMMUNO-ONCOLOGY	TRACK 2: ENGINEERING THE FC REGION TO IMPROVE THERAPEUTIC EFFECTS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: REMODELING THE TUMOR MICROENVIRONMENT FOR CANCER THERAPY	TRACK 2: NOVEL TARGETS FOR ANTIBODY THERAPEUTICS	SPECIAL SESSION OF THE ANTIBODY SOCIETY
08:00			**08:10** - Chairwoman's Remarks **08:15** - Engineering of Human Sialidase Neu2 as a Novel Immunotherapy for Degrading Immunosuppressive Sialoglycans to Enhance Antitumor T-Cell Immunity **08:45** - KVA12.1 a VISTA Blocking Immunotherapy	**08:10** - Co-Chairs' Remarks **08:15** - Fc Engineering for Maximizing Soluble Target Antigen Sweeping Efficacy by Enhanced FcγRIIb Binding and Charge Modulation **08:45** - Healthy Volunteer Data with ARGX-117, A Sweeping Anti-C2 Antibody								

SCHEDULE

MAIN CONFERENCE DEC. 7 - 07/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: ADVANCING ANTIBODY THERAPEUTICS IN IMMUNO-ONCOLOGY	TRACK 2: ENGINEERING THE FC REGION TO IMPROVE THERAPEUTIC EFFECTS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: REMODELING THE TUMOR MICROENVIRONMENT FOR CANCER THERAPY	TRACK 2: NOVEL TARGETS FOR ANTIBODY THERAPEUTICS	SPECIAL SESSION OF THE ANTIBODY SOCIETY
09:00			**09:15** - Discovery and Development of a Novel Antibody Therapeutic Against CD161 **09:45** - Networking Refreshment Break, Exhibit and Poster Viewing	**09:15** - FcγRIIIa Glycosylation Affects Antibody-binding Affinity **09:45** - Networking Refreshment Break, Exhibit and Poster Viewing								
10:00			**10:30** - Boosting Macrophage Appetites for Cancer Immunotherapy	**10:30** - Antibodies Fc-engineered for Cell-surface Specific Assembly – Variations of IgG Hexamers and Agonistic Applications								

SCHEDULE

MAIN CONFERENCE DEC. 7 - 07/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: ADVANCING ANTIBODY THERAPEUTICS IN IMMUNO-ONCOLOGY	TRACK 2: ENGINEERING THE FC REGION TO IMPROVE THERAPEUTIC EFFECTS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: REMODELING THE TUMOR MICROENVIRONMENT FOR CANCER THERAPY	TRACK 2: NOVEL TARGETS FOR ANTIBODY THERAPEUTICS	SPECIAL SESSION OF THE ANTIBODY SOCIETY
11:00			**11:00** - Therapeutic Antibody Approaches to Myeloid Tuning of the Tumor Microenvironment **11:30** - Discovery of EPB-001, a potent Anti-Siglec15 mAb that reverses immune suppression for cancer immunotherapy	**11:00** - IgE Class Antibody Immunotherapy for Solid Tumors **11:30** - IgM-based Therapeutics								

SCHEDULE

MAIN CONFERENCE DEC. 7 - 07/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: ADVANCING ANTIBODY THERAPEUTICS IN IMMUNO-ONCOLOGY	TRACK 2: ENGINEERING THE FC REGION TO IMPROVE THERAPEUTIC EFFECTS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: REMODELING THE TUMOR MICROENVIRONMENT FOR CANCER THERAPY	TRACK 2: NOVEL TARGETS FOR ANTIBODY THERAPEUTICS	SPECIAL SESSION OF THE ANTIBODY SOCIETY
12:00	**12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing	**12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing	**12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing	**12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing	**12:00** - Genscript Scientific Briefing **12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing	**12:00** - Accelerated Antibody Discovery: The Intersection of Hyper Throughput and Function First Screening **12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing	**12:00** - Overcoming Process Bottlenecks in Antibody Discovery through End-to-end Automated Synthetic Biology Solutions **12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing	**12:00** - Benchling Scientific Briefing **12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing	**12:00** - Revolka Scientific Briefing **12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing	**12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing	**12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing	**12:30** - Networking Luncheon, Last Chance for Exhibit and Poster Viewing

SCHEDULE

MAIN CONFERENCE DEC. 7 - 07/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: ADVANCING ANTIBODY THERAPEUTICS IN IMMUNO-ONCOLOGY	TRACK 2: ENGINEERING THE FC REGION TO IMPROVE THERAPEUTIC EFFECTS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: REMODELING THE TUMOR MICROENVIRONMENT FOR CANCER THERAPY	TRACK 2: NOVEL TARGETS FOR ANTIBODY THERAPEUTICS	SPECIAL SESSION OF THE ANTIBODY SOCIETY
14:00										**14:10** - Co-Chairs' Remarks **14:15** - Selective Activation of CD8+ T cells by AB821, a CD8-targeted IL-21, Results in Enhanced Anti-tumor Efficacy and Safety **14:45** - Engineered Cytokines for Cancer Immunotherapy	**14:10** - Co-Chairs' Remarks **14:15** - Therapeutic Antibodies to Complex Receptors – Exploring the Urokinase Plasminogen Activator Receptor **14:45** - The Truth About IgA?	

SCHEDULE

MAIN CONFERENCE DEC. 7 - 07/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: ADVANCING ANTIBODY THERAPEUTICS IN IMMUNO-ONCOLOGY	TRACK 2: ENGINEERING THE FC REGION TO IMPROVE THERAPEUTIC EFFECTS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: REMODELING THE TUMOR MICROENVIRONMENT FOR CANCER THERAPY	TRACK 2: NOVEL TARGETS FOR ANTIBODY THERAPEUTICS	SPECIAL SESSION OF THE ANTIBODY SOCIETY
15:00	**15:45** - Networking Refreshment Break	**15:45** - Networking Refreshment Break	**15:45** - Networking Refreshment Break	**15:45** - Networking Refreshment Break	**15:45** - Networking Refreshment Break	**15:45** - Networking Refreshment Break	**15:45** - Networking Refreshment Break	**15:45** - Networking Refreshment Break	**15:45** - Networking Refreshment Break	**15:15** - Intratumorally Anchored Cytokine Immunotherapy **15:45** - Networking Refreshment Break	**15:15** - Mechanisms of Reversal of Acute Type 1 Diabetes with a TLR-4/MD-2 Monoclonal Antibody **15:45** - Networking Refreshment Break	**15:45** - Networking Refreshment Break

SCHEDULE

MAIN CONFERENCE DEC. 7 - 07/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: ADVANCING ANTIBODY THERAPEUTICS IN IMMUNO-ONCOLOGY	TRACK 2: ENGINEERING THE FC REGION TO IMPROVE THERAPEUTIC EFFECTS	SCIENTIFIC BRIEFING 1	SCIENTIFIC BRIEFING 2	SCIENTIFIC BRIEFING 3	SCIENTIFIC BRIEFING 4	SCIENTIFIC BRIEFING 5	TRACK 1: REMODELING THE TUMOR MICROENVIRONMENT FOR CANCER THERAPY	TRACK 2: NOVEL TARGETS FOR ANTIBODY THERAPEUTICS	SPECIAL SESSION OF THE ANTIBODY SOCIETY
16:00										**16:15** - Modulating Immune Cell Migration As An Immunotherapy for Cancer **16:45** - Toll-Like Receptor (TLR9) Agonist Antibody Conjugates For Targeted Immune Activation	**16:15** - Anti-CD270 Antibody Checkpoint Inhibitor for Cancer Treatment: Swing Around Patient's CD270 Immunosuppressive Disadvantage **16:45** - Targeting alpha5 Integrin in ALS	
17:00										**17:15** - Diet and Immunity in the Tumor Niche	**17:15** - Ultra-long CDR3-based Knobs: The Smallest Antibody Fragment	**17:45** - Antibodies to Watch in 2023

SESSIONS

MAIN CONFERENCE DEC. 8 - 08/12/2022

Registration

On demand

Hinge Bio Scientific Breakfast Briefing

07:45 - 08:15
Scientific Breakfast Briefing #1

Participants

Daniel Capon, Ph.D. - Co-Founder, Director & Chief Scientific Officer , Hinge Bio, Inc.

Scientific Breakfast Briefing #2

07:45 - 08:15
Scientific Breakfast Briefing #2

Co-Chairs' Remarks

08:25 - 08:30
Track 1: Antibodies in Infectious Diseases

Participants

Dennis Burton, PhD - Professor and Chairman, Department of Immunology & Microbiology , The Scripps Research Institute

Laura Walker, Ph.D - Chief Scientific Officer , Adagio Therapeutics

Chairman's Remarks

08:25 - 08:30
Track 2: Functional Screening Integrated Into Initial Antibody Discovery

Participants

Stephen Parmley, Ph.D. - Vice President, Molecular Biology & Protein Science , AnaptysBio

Mechanisms of Antibody-mediated Protection Against SARS-CoV-2

08:30 - 09:00
Track 1: Antibodies in Infectious Diseases

Both neutralizing and binding antibody titers have been established as correlate of protection against SARS-CoV-2. Here we assessed the different antibody-mediated mechanisms that provide protection.

Participants

Florian Krammer - Associate Professor , Icahn School of Medicine at Mount Sinai

Human Monoclonal Antibodies for Emerging Infections

08:30 - 09:00
Track 2: Functional Screening Integrated Into Initial Antibody Discovery

Emerging infections are causing human epidemics with an accelerating pace. Increasingly, human mAbs are being used to treat or even prevent infections. New single-cell discovery platforms allow ultra-rapid discovery of broad and potent antibodies for diverse infectious diseases.

Participants

James Crowe, Jr., M.D. - Director, Vanderbilt Vaccine Center , Vanderbilt University Medical Center

The Human Antibody Response to Plasmodium Falciparum Circumsporozoite Protein

09:00 - 09:30
Track 1: Antibodies in Infectious Diseases

Plasmodium falciparum circumsporozoite protein (PfCSP) is a potent malaria vaccine target. Single-cell based assessments of the clonal evolution of human anti-PfCSP antibody responses provide insights in the development of potent parasite inhibitory antibody lineages and the immunogenicity of their target epitopes. The data serve as basis for the design of optimised PfCSP-based vaccine candidates.

Participants

Hedda Wardemann, PhD - Professor and Head, Division of B Cell Immunology , German Cancer Research Center (DKFZ)

Combining Mammalian Antibody Secreting Cells and Microfluidics for Versatile Hit Discovery and Optimization

09:00 - 09:30
Track 2: Functional Screening Integrated Into Initial Antibody Discovery

PoC studies will be presented that apply primary B cells or mammalian libraries in microfluidics-assisted high throughput cellular binding or functional screening to exemplify the versatility and powerful options when combining these emerging technologies. In a similar methodology, an example of display libraries consecutively interrogated for manufacturability and specificity will be discussed.

Participants

Achim Doerner - Principal Scientist, Protein Engineering and Antibody , Merck Healthcare KGaA

Fc Mediated Enhancement of Anti-Viral mAbs

09:30 - 10:00
Track 1: Antibodies in Infectious Diseases

I will discuss recent findings the show how the function of anti-viral antibodies is naturally and artificially expanded by Fc interactions with proteins and cell membranes.

Participants

Jonathan Yewdell, M.D., Ph.D. - Chief, Cellular Biology Section , NIAID, NIH

High-throughput Functional Screening for Next-generation Cancer Immunotherapies Using Droplet-based Microfluidics

09:30 - 10:00
Track 2: Functional Screening Integrated Into Initial Antibody Discovery

High-throughput approaches for direct functional screening of antibodies would facilitate the development of next-generation cancer immunotherapies such as bispecific cell engagers or agonist antibodies. Here, we describe an efficient droplet-based microfluidic platform for functional screening of lentivirus-based antibody libraries. This system enables the rapid interrogation of millions of antibodies to identify hits with desired functionalities and has the potential to accelerate immunotherapy drug development.

Participants

Roshan Kumar - Senior Director, Head of Exploratory Biology , HiFiBiO Therapeutics

Networking Refreshment Break

10:00 - 10:30

Flu Antibodies

10:30 - 11:00
Track 1: Antibodies in Infectious Diseases

Participants

Lisa Purcell, PhD - Senior Vice President, Mircobiology and Virology , Vir Biotechnology

SESSIONS

MAIN CONFERENCE DEC. 8 - 08/12/2022

Function-based Screening for Antibody Antagonists and Agonists Against Human Apelin

10:30 - 11:00
Track 2: Functional Screening Integrated Into Initial Antibody Discovery

APJ is an important therapeutic target for the treatment of cardiovascular diseases. Here we report a function-based high-throughput screening method by combining glycosylphosphatidylinositol-anchored antibody cell display with β-arrestin recruitment-based cell sorting and screening. With this method, we quickly identified antibody antagonists and agonists against human apelin receptor. Our data suggest that this new approach is more efficient than traditional methods such as hybridoma and phage display in isolating functional antibodies.

Participants

Liaoyuan Hu, Ph.D. - CEO , ReCentrics Bio

Scientific and Clinical Development of Malaria Antibodies to Prevent and Eliminate Malaria

11:00 - 11:30
Track 1: Antibodies in Infectious Diseases

Malaria remains a public health crisis requiring new interventions for prevention. Monoclonal antibodies can prevent malaria in field trials during seasonal transmission. Ongoing work on enhancing the potency and half-life will be critical for using antibodies to prevent and eliminate malaria.

Participants

Robert Seder, MD - Chief, Cellular Immunology Section, Vaccine Research Center , NIAID, NIH

High-throughput Antibody Discovery from Antibody-secreting Cells Using Nanovial Technology

11:00 - 11:30
Track 2: Functional Screening Integrated Into Initial Antibody Discovery

Millions of cavity-containing nanovial particles act to selectively enrich antibody-secreting cells (ASCs) and capture secreted antibodies in close proximity to the cells. Fluorescence assays can then be conducted on nanovials to characterize the antigen-binding properties of the secreted antibodies and link these to the secreting cells. We demonstrate a discovery workflow for screening plasma cells, yielding high hit rates of functional antibodies, leveraging standard fluorescence activated cell sorting.

Participants

Dino Di Carlo, PhD - Professor of Bioengineering , UCLA

Dilip Challa - Scientist II, B Cell Platform , Alloy Therapeutics

Broadly Neutralizing Antibodies for HIV Prevention

11:30 - 12:00
Track 1: Antibodies in Infectious Diseases

Clinical studies of HIV broadly neutralizing antibodies for prevention and treatment have shown the promise and the limitations of current antibodies. New work in HIV antibody discovery and engineering is yielding promising leads.

Participants

Nicole Doria-Rose, PhD - Chief, Humoral Immunology Core , Vaccine Researchy Center

Targeting Challenging Protein Targets Using Conformationally Selective Antibodies

11:30 - 12:00
Track 2: Functional Screening Integrated Into Initial Antibody Discovery

Identifying conformation- and composition-specific antibodies against proteins with high conformational entropy and large hetero-oligomeric complexes can help elucidate detailed structures and mechanisms using crystallography or single particle cryoEM. These Fabs also enable functional assays of particular states of the target protein by stabilizing otherwise transient intermediate states. Approaches that speed the identification of phage display selected antibody fragments to better understand dynamic proteins will be presented.

Participants

Charles Craik, Ph.D. - Professor in the Departments of Pharmaceutical Chemistry, Cellular & Molecular Pharmacology and Biochemistry & Biophysics , University of California at San Francisco

Transition to Scientific Luncheon Briefings

12:00 - 12:15

GenScript Scientific Luncheon Briefing

12:15 - 12:45
Scientific Luncheon Briefing 1

Loop Genomics Scientific Luncheon Briefing

12:15 - 12:45
Scientific Luncheon Briefing 2

Networking Break

12:45 - 13:25

Co-Chairs' Remarks

13:25 - 13:30
Antibody Engineering, Libraries and Selection

Participants

Andrew Bradbury, MD, PhD - Chief Scientific Officer , Specifica

Brandon DeKosky, Ph.D. - Assistant Professor of Chemical Engineering , The University of Kansas

Using Defined Human CDRs in Antibody Discovery and Optimization

13:30 - 14:00
Antibody Engineering, Libraries and Selection

We have previously shown that antibody libraries in which natural CDRs, purged of sequence liabilities, are embedded within clinical antibody scaffolds can generate antibodies with affinities matching or exceeding those found during natural immune responses and without the developability issues commonly associated with in vitro derived antibodies. This talk will discuss the successful extension of this concept to additional scaffolds and the improvement of lead antibodies. Unlike most affinity maturation methods, the use of defined human CDRs allows the simultaneous improvement of both affinity and developability.

Participants

Andrew Bradbury, MD, PhD - Chief Scientific Officer , Specifica

Precision High-throughput Screening for Improved Antibody Discovery Against Difficult Targets

14:00 - 14:30
Antibody Engineering, Libraries and Selection

Recent work has revealed critical vulnerable antibody targets that interrupt malaria and HIV-1 transmission. We developed new approaches for efficient antibody discovery and improvement against the structurally complex malaria circumsporozoite protein (CSP), enabling exquisite anti-malarial protective potency. Using the same strategy, we engineered the most broadly neutralizing antibody reported against the HIV-1 fusion peptide. This presentation will share these new molecular approaches in precision antibody drug discovery.

Participants

Brandon DeKosky, Ph.D. - Assistant Professor of Chemical Engineering , The University of Kansas

SESSIONS

MAIN CONFERENCE DEC. 8 - 08/12/2022

Improved Therapeutic Index of An Acidic pH-selective Antibody

14:30 - 15:00
Antibody Engineering, Libraries and Selection

Although therapeutically efficacious, ipilimumab can exhibit dose-limiting toxicity. Acidic pH-selective ipilimumab variants have been engineered with up to 50-fold enhanced CTLA-4 affinity at pH 6.0 compared to pH 7.4 for preferentially and reversibly targeting the tumor microenvironment. In hCTLA-4 knock-in mice, these variants maintained anti-tumor activity and reduced peripheral activation, a surrogate for toxicity. pH-sensitive therapeutic antibodies may be a novel modality for enhanced tumor targeting and improved therapeutic index.

Participants

Peter Lee, Ph.D. - Principal Scientist, Protein Engineering , NGM Biopharmaceuticals

Networking Refreshment Break

15:00 - 15:30

Orthogonal DNA Replication for Rapid mAb Evolution

15:30 - 16:00
Antibody Engineering, Libraries and Selection

We are interested in building genetic systems that have extremely high mutation rates in order to accelerate and scale the evolution of proteins, enzymes, and antibodies in vivo. In this talk, I will discuss our work on OrthoRep, a highly error-prone orthogonal DNA replication system that drives the rapid continuous hypermutation and evolution of user-selected genes. I will focus on OrthoRep's application to yeast display-based antibody evolution.

Participants

Chang Liu, PhD - Associate Professor, Biomedical Engineering , University of California at Irvine

Linking B Cell Receptor to Antigen Specificity through Sequencing and Ligand Blocking

16:00 - 16:30
Antibody Engineering, Libraries and Selection

Efficient discovery of functional antibodies using LIBRA-seq with ligand blocking

LIBRA-seq (LInking B-cell Receptor to Antigen specificity through sequencing) enables high-throughput antibody discovery through simultaneous screening of B cells against a theoretically unlimited number of antigens at a time. Incorporating antibody–ligand blocking with LIBRA-seq leads to efficient identification of functional antibodies. LIBRA-seq with ligand blocking is a general platform for antibody discovery in any setting that targets the disruption of antigen–ligand interactions.

Participants

Ivelin Georgiev, PhD - Associate Professor of Pathology, Microbiology and Immunology , Vanderbilt University Medical Center

Ligand Induced Transient Engagement for Switchable Antibody Complex Assembly

16:30 - 17:00
Antibody Engineering, Libraries and Selection

We will present on our LITE switch platform, an innovative new approach to precisely control the activity of antibody therapeutics after they have been administered to a patient. We will describe T-LITEs, an application of this platform to enable safer and more efficacious T-cell engager therapies through reduced side effects and higher dosing. Our T-LITE's bispecific functionality is selectively switched on/off through administration of a small-molecule activator, enabling control over the timing and magnitude of T-cell redirection and cytotoxic activity.

Participants

Alex Martinko, PhD - Co-Founder & Senior Director of Protein Engineerin , Soteria Biotherapeutics

Close of Conference

17:00 - 17:05

SCHEDULE

MAIN CONFERENCE DEC. 8 - 08/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: ANTIBODIES IN INFECTIOUS DISEASES	TRACK 2: FUNCTIONAL SCREENING INTEGRATED INTO INITIAL ANTIBODY DISCOVERY	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	ANTIBODY ENGINEERING, LIBRARIES AND SELECTION
07:00	**07:45** - Hinge Bio Scientific Breakfast Briefing **On demand** - Registration	**07:45** - Scientific Breakfast Briefing #2 **On demand** - Registration	**On demand** - Registration	**On demand** - Registration	**On demand** - Registration	**On demand** - Registration	**On demand** - Registration
08:00			**08:25** - Co-Chairs' Remarks **08:30** - Mechanisms of Antibody-mediated Protection Against SARS-CoV-2	**08:25** - Chairman's Remarks **08:30** - Human Monoclonal Antibodies for Emerging Infections			
09:00			**09:00** - The Human Antibody Response to Plasmodium Falciparum Circumsporozoite Protein **09:30** - Fc Mediated Enhancement of Anti-Viral mAbs	**09:00** - Combining Mammalian Antibody Secreting Cells and Microfluidics for Versatile Hit Discovery and Optimization **09:30** - High-throughput Functional Screening for Next-generation Cancer Immunotherapies Using Droplet-based Microfluidics			
10:00	**10:00** - Networking Refreshment Break	**10:00** - Networking Refreshment Break	**10:30** - Flu Antibodies **10:00** - Networking Refreshment Break	**10:30** - Function-based Screening for Antibody Antagonists and Agonists Against Human Apelin **10:00** - Networking Refreshment Break	**10:00** - Networking Refreshment Break	**10:00** - Networking Refreshment Break	**10:00** - Networking Refreshment Break

SCHEDULE

MAIN CONFERENCE DEC. 8 - 08/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: ANTIBODIES IN INFECTIOUS DISEASES	TRACK 2: FUNCTIONAL SCREENING INTEGRATED INTO INITIAL ANTIBODY DISCOVERY	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	ANTIBODY ENGINEERING, LIBRARIES AND SELECTION
11:00			**11:00** - Scientific and Clinical Development of Malaria Antibodies to Prevent and Eliminate Malaria **11:30** - Broadly Neutralizing Antibodies for HIV Prevention	**11:00** - High-throughput Antibody Discovery from Antibody-secreting Cells Using Nanovial Technology **11:30** - Targeting Challenging Protein Targets Using Conformationally Selective Antibodies			
12:00	**12:00** - Transition to Scientific Luncheon Briefings **12:45** - Networking Break	**12:00** - Transition to Scientific Luncheon Briefings **12:45** - Networking Break	**12:00** - Transition to Scientific Luncheon Briefings **12:45** - Networking Break	**12:00** - Transition to Scientific Luncheon Briefings **12:45** - Networking Break	**12:15** - GenScript Scientific Luncheon Briefing **12:00** - Transition to Scientific Luncheon Briefings **12:45** - Networking Break	**12:15** - Loop Genomics Scientific Luncheon Briefing **12:00** - Transition to Scientific Luncheon Briefings **12:45** - Networking Break	**12:00** - Transition to Scientific Luncheon Briefings **12:45** - Networking Break
13:00							**13:25** - Co-Chairs' Remarks **13:30** - Using Defined Human CDRs in Antibody Discovery and Optimization

SCHEDULE

MAIN CONFERENCE DEC. 8 - 08/12/2022

TIME	SCIENTIFIC BREAKFAST BRIEFING #1	SCIENTIFIC BREAKFAST BRIEFING #2	TRACK 1: ANTIBODIES IN INFECTIOUS DISEASES	TRACK 2: FUNCTIONAL SCREENING INTEGRATED INTO INITIAL ANTIBODY DISCOVERY	SCIENTIFIC LUNCHEON BRIEFING 1	SCIENTIFIC LUNCHEON BRIEFING 2	ANTIBODY ENGINEERING, LIBRARIES AND SELECTION
14:00							**14:00** - Precision High-throughput Screening for Improved Antibody Discovery Against Difficult Targets **14:30** - Improved Therapeutic Index of An Acidic pH-selective Antibody
15:00	**15:00** - Networking Refreshment Break	**15:00** - Networking Refreshment Break	**15:00** - Networking Refreshment Break	**15:00** - Networking Refreshment Break	**15:00** - Networking Refreshment Break	**15:00** - Networking Refreshment Break	**15:30** - Orthogonal DNA Replication for Rapid mAb Evolution **15:00** - Networking Refreshment Break
16:00							**16:00** - Linking B Cell Receptor to Antigen Specificity through Sequencing and Ligand Blocking **16:30** - Ligand Induced Transient Engagement for Switchable Antibody Complex Assembly
17:00	**17:00** - Close of Conference	**17:00** - Close of Conference	**17:00** - Close of Conference	**17:00** - Close of Conference	**17:00** - Close of Conference	**17:00** - Close of Conference	**17:00** - Close of Conference