4th Annual PREDiCT: TUMOR MODELS SAN FRANCISCO

Preliminary Agenda

January 22-24 2020

Event Summary

Accurately recapitulating a human tumor in a mouse while preserving the complexity and integrity of the disease has been an ongoing challenge in preclinical oncology. However, the countless intricacies of immunotherapy and the broader immune system require a unique perspective to appreciate them.

Advancing through *in vitro*, syngeneic, PDX, and humanized drug target trials still presents an array of complex issues during preclinical development. On top of this; being prepared to embrace more novel techniques like 3D organoid and microfluidic models; as well as reviewing the benefits as old techniques such as *ex vivo* modeling is becoming more important than ever.

Returning for its 4th year, *PREDiCT Tumour Models San Francisco* remains dedicated to exploring the continued application of immunotherapy models to **enhance the translation of cancer therapies from bench to patient**. Sitting at the interface of innovation in model development and therapeutic application, the Tumour Models Series merges strategic perspectives from bio-pharma with new insights of emerging therapeutic programs.

PROUD TO PARTNER WITH:

CrownBio

The Jackson Laboratory

CHAMPIONS ONCOLOGY

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Confirmed Speakers:

Jaeho Jung, Executive Vice President of R&D, **ABL Bio**

Shiva Kazerounian, Associate Director of *In Vivo*, **Berg Health**

Joshua Breunig, Assistant Professor, **Cedars-Sinai**

Chung-Wein Lee, Senior Scientist, **Celgene Corporation**

Champions Oncology Speaker

Krista McNally, Senior Scientist, **Chimera Bioengineering**

Dean O Campbell, Director Scientific Engagement Oncology-West, **Crown science**

Wei Sun, Professor, **Drexel University**

HERA Biolabs Speaker

The Jackson Laboratory Speaker

Angus Sinclair, Vice President, **IGM Biosciences**

Saad Sirop Kenderian Senior Associate Consultant - Hematology, Immunology & Molecular Medicine, **Mayo Clinic**

Gregor Adams, Director of Scientific Development, **MI Bioresearch**

Jim Hodge Deputy Chief, Laboratory of Tumor Immunology and Biology Senior Investigator, Head, Recombinant Vaccine Group National Cancer Institute, **National Institutes of Health**

Loui Madakamutil, Senior Vice President & Head of Discovery & Preclinical Development, **Nektar Therapeutics**

Daniel Harrington, Assistant Professor, **The University of Texas Health Science Center**

Pengfei Zhou, Chief Executive Officer, **YZY Bio**

Subject to Final Confirmation:

Corinne Reimer, Associate Director of In Vivo Pharmacology, **AstraZeneca**

Keiji Furuuchi, Associate Director & Head of Immunotherapy & Preclinical Development, **Eisai**

Jorge Blando, Director - Immunopathology Lab & Immunotherapy Platform, **MD Anderson Cancer Center**

Invited:

Mary Janatpour, Vice President of Oncology Research, **Dynavax Technologies**

Paul Moore, Vice President, **Macrogenics**

Sabine Le Saux, Senior Scientist Immuno-Oncology, **Merck**

Alison Paterson Director of Program Leadership, **Surface Oncology**

Brian Bush, Senior Director - Preclinical Operations, **Regeneron Pharmaceuticals**

Conference Day One | 23rd January 2020

8.50 Chair's opening remarks

Addressing The Demand for Clinically Relevant Mouse Models for Immunotherapy

Recent breakthroughs involving humanized mice have elevated the translational quality of these models within preclinical IO research. This session will explore preclinical investigations to better model human tumor and human immune system interaction through the use of humanized models. Particular emphasis will be given to the challenges, insights, and future directions for mouse and humanized models in cancer immunology and immunotherapy

9.00 - Sponsor Talk
The Jackson Laboratory Speaker

9.30 - Validating New Humanization Methods to be Implemented in the Assessment of Multiple Immunotherapeutics
Subject to final Confirmation: Corinne Reimer, Associate Director of In Vivo Pharmacology, AstraZeneca

10.00 - Breaking Down the Current Variety of Syngeneics Available for Better Model Selection
Confirmed: Shiva Kazerounian, Associate Director of *In Vivo*, Berg Health

10.30 - Speed Networking
Morning Refreshments

11.00 - New Genetically Engineered Mouse Models for Brain Cancer & their IO Applications
Confirmed: Joshua Breunig, Assistant Professor, Cedars-Sinai Hospital

11.30 - Developing a Mouse Tumor Homograft Model Platform (MuPrime™) for Immuno-Oncology Drug Discovery

- GEMM-derived mouse tumor homografts (MuPrime) adds to the portfolio of tumor models for efficacy evaluation of therapeutic antibodies for cancer immunotherapies
- A mouse version of PDX in fully functional mouse Myanmar95.
- immune system that recapitulates molecular signatures of human tumors

Confirmed: Dean Campbell, Director Scientific Engagement Oncology-West, Crown Bioscience

12.00 - Panel Discussion: Taking a Step Back – How Can the Preclinical Oncology Field Work Together to Improve the Success Rate of IO Therapeutics?

Steering the candidates with the most potential to the clinic is a difficult task, but one that in the end benefits patients and industry alike. Advancing the field onwards is a task that requires collaboration between academia and industry; *in vivo* and *in vitro* teams alike. In this panel we'll discuss where the main 'sticking points' are that prevent efficient pipeline advancement

Confirmed: Angus Sinclair, Vice President, IGM Biosciences

Confirmed: Jim Hodge Deputy Chief, Laboratory of Tumor Immunology and Biology Senior Investigator, Head, Recombinant Vaccine Group National Cancer Institute, National Institutes of Health

Confirmed: Shiva Kazerounian, Associate Director of *In Vivo*, Berg Health

12.30 - Lunch & Networking

Recapitulating the Immunological Complexity of the Tumor *In Vivo* Models

The complexity of solid tumors is so extensive that it can be hard for even the most experience immune-oncologist to get their head around. How you can confidently predict the potential knock-on effects that your treatment will have on the Tumor and the host is goal of this session. Bringing together immunological and oncological perspectives, how do you make sure that you choose the right *in vivo* models to find out the most important information?

13.30 - Sponsor Talk
HERA Biolabs Speaker

13.45 - Beyond Just Xenografts: Preclinical Models Combinations to Reveal True Capabilities in ADC Development
Confirmed: Keiji Furuuchi, Associate Director & Head of Immunotherapy & Preclinical Development, Eisai

14.15 Importance of Microenvironment in Evaluating IO Therapy Response in Humanized Mouse Models
- Basis of osteoimmunology and the potential of targeting immune cells in bone metastasis
- Effects of microenvironment on tumor growth and efficacy of immunotherapy

Confirmed: Tiina Kähkönen, Research Director, Pharmatest Services

14.30 - Identifying Predictive & Prognostic Biomarkers through Preclinical Modeling of Syngeneic Tumors
- Evading the host immune response is a recognized hallmark of cancer
- Comprehensive analysis of the immune cells in immunocompetent tumor models is essential for the development of novel therapies and understanding their mechanism of action in vivo
- We have accumulated data from different model systems to identify key differences between tumors that respond (hot) or do not respond (cold) to immunomodulatory agents

Confirmed: Gregor Adams, Director of Scientific Development, MI Bioresearch

14.45 Afternoon Refreshments & Networking

Enhancing Preclinical Testing & Improving Translatability of IO Therapeutics with Novel Technologies

The current tools in the preclinical oncologist's toolkit have served well but there is a constant need for scientists to widen their array of capabilities to be able to tackle any challenge that may arise. In this section we will look at the unique methods and tools that are being used today to improve the quality and efficiency of current preclinical and translational research.

15.15 - 3D Bioprinting in vitro Tumor Models
- Bioprinting cancer cells to construct in vitro tumor models
- Bioprinting personalised tumor models
- Study chemoresistance, MMP expressions, gene expressions, etc

Confirmed: Wei Sun, Professor, Drexel University

15.45 - **Multiplex Immunoassays for Tumor Profiling**
Confirmed: Chung-Wein Lee, Senior Scientist, Celgene Corporation

16.15 Close of Conference Day One - Evening Drinks Reception & Poster Session

Conference Day Two | 24th January 2019

8.50 Chair's Opening Remarks

Enhancing the Translational Confidence of T Cell–Redirection Strategies

Multiple methodologies exist for directing T cells to tumor cells. Checkpoint, CAR and BITE's have generated much excitement given the range and level of function they can elicit from T-cells as well as the expansion of treatment possibilities they present for immunotherapies. This session will look to review emerging preclinical strategies for predicting, mediating and mitigating toxicities.

9.00 - Validating IO Bispecific Antibodies in Humanized Models

- Animal models for pre-clinical efficacy evaluation for ABL Bio's bispecific antibodies
- Sharing model validation approaches
- Humanized PBMC models, Humanized CD34+ HSC models

Confirmed: Jaeho Jung, Executive Vice President of R&D, ABL Bio

9.30 - Preclinical Development of T Cell Redirecting Bispecific Antibodies

- Get an overview of the key challenges faced when carrying out preclinical development of redirecting bispecific antibodies
- Learn how the PDX/Syngeneic models available can be used effectively to overcome these challenges
- How to evaluate T cell induced cytokine storms in preclinical models

Confirmed: Pengfei Zhou, Chief Executive Officer, YZY Bio

10.00 - IL12-Armored CAR-T: Multi-Dimensional Data Analysis to Assess both Efficacy & Safety Considerations in an NSG Mouse Model

- 4th generation "Armored" CAR-T cells express a biologic payload to assist in overcoming hostile tumor microenvironments
- Many payloads, such as IL12, have potentially toxic effects when dosed systemically
- Chimera's proprietary GOLD CAR-T cells restrict the payload delivery to the local tumor microenvironment
- We used measurements of IL12 levels and other pro-inflammatory cytokines in the blood correlated with tumor burden and time-since-tumor-clearance to compare inducible verses constitutive IL12 delivery by CAR-T cells
- Combining a temporal analysis with quantitation of both payload and effector cytokines gives a more complete picture of the benefit of GOLD-controlled delivery of IL-12 verses constitutive delivery

Confirmed: Krista McNally, Senior Scientist, Chimera Bioengineering

10.30 - Morning Refreshments & Networking

11.00 -Roundtable

3D Oncology Modeling & its Applications in IO

3D oncology modeling has seen a resurgence in recent times due to the versatility and cost-effectiveness they provide across a variety of cancers. This session will see speakers highlight the new capabilities that 3D models offer preclinical teams.

11.30 - The Potential of 3D Tumor Organoid Models in Testing Immuno-Oncology Therapeutics
Confirmed: Daniel Harrington, Assistant Professor, University of Texas

12.00 –

12.30 - Panel Discussion: Recap – 3D Oncology Modeling

13.00 - Lunch & Networking

Modeling Strategies to Enhance the Translational Confidence of Immunotherapy Combinations

The renaissance in cancer immunotherapy is bringing with it added complexity for combinatorial drug development. Given the lack of predictivness often attributed to current models, huge question marks still centre around key study design elements such as dosing, scheduling, escalation strategies and patient selection. This section will look to elucidate the understanding the mechanism of action of tested compounds, and help with identifying rationale combination partners for best anti-tumor efficacy.

14.00 Supercharging the Tumor Microenvironment with the Engineered Cytokines NKTR-214 and KNTR-255

- The idea of combining the immune modulating properties of checkpoint inhibitors and other immunological medicines with the immune stimulating function of engineered cytokines is conceptually powerful
- Engineered cytokines can more effectively stimulate cytokine receptor pathways, while controlling adverse events
- The combination of NKTR-214 with Opdivo has demonstrated powerful anti-tumor effects and profoundly alters the tumor microenvironment, increasing effector T-cell counts, increasing PD-1 expression on tumor T-cells, and converting PD-L1 negative tumors to positive, while maintaining a more tolerable AE profile than traditional cytokine therapies
- NKTR-255, an IL-15 receptor agonist stimulates NK cells and CD8 memory T cells has the ability to be combined with monoclonal antibodies with ADCC function or with cellular therapies.

Confirmed: Loui Madakamutil, Senior Vice President & Head of Discovery & Preclinical Development, Nektar Therapeutics

14.30 Combining IO with Non-IO and Radiotherapies for More Realistic Predictions *In Vivo*
Confirmed: Jim Hodge Deputy Chief, Laboratory of Tumor Immunology and Biology Senior Investigator, Head, Recombinant Vaccine Group National Cancer Institute, National Institutes of Health

15.00 - Afternoon Refreshments

Improving Target Selection & Breaking Down Tumor Resistance

Selecting the right target is a process that can make or break a therapeutic. Enzymes, cellular receptors, signalling pathways and everything in between are what we will discuss here. Looking in-depth at how we look assess targets and accurately predict their responses.

15.30 - Explore the Role of Functional Genomics in Current Target Identification Strategies
Invited: Mary Janatpour, Vice President of Oncology Research, **Dynavax Technologies**

16.00 - Using our Understanding of the Tumor Microenvironment to Overcome Tumor Resistance
Invited: Don-Hong Wang, Senior Research Scientist, **Senti Biosciences**

Chair's Closing Remarks & Close of Conference

Pre-Conference Workshop Day 22nd of January

Workshop A – Sponsored Workshop from The Jackson Laboratory

Details to be Confirmed

Workshop B – The Immunological Components of the Tumor & the Roles they Play in Drug Efficacy & Toxicity

Join an experienced immunologist to refresh and improve your immunology knowledge.
This Workshop will go back to the immunological roots of immunotherapy, giving you the opportunity to discuss the following:

- Cell Sub Types and how our current understanding indicates they're involved in tumor response
- A detailed breakdown of the immune response to cancer and how current therapies interact with the immune system
- An exploration of the tumor microenvironment, including discussions on Tumor Associated Macrophages (TAMs) and others
- A case-study guided look at immune-related toxicity, it's signs and the protocols by which they are investigated clinically

Subject to Final Confirmation: Jorge Blando, Director - Immunopathology Lab & Immunotherapy Platform, MD Anderson Cancer Center

Workshop C – Sponsored Workshop from The Jackson Laboratory

Details to be Confirmed

Evening Drinks Reception Sponsored by Crown Bioscience