# IMMUNO-ONCOLOGY INSIGHTS

# EDITORIAL CALENDAR 2022

## JANUARY

### Anticipating immuno-oncology modality/platform development trends for 2022

- Tumor-mediated immune suppression: beyond PD-1
  - What next for TIGIT and LAG-3? (And will further checkpoint inhibitor opportunities arise?)
  - Exploring various mechanisms and their future relevance to the I-O field (eg. TGF-β)
- Examining the near-mid-term prospects and development trends for next-generation cellular immunotherapy
  - How is the new wave of autologous CAR T cell immunotherapies set to build on the clinical success of first and second generation approaches?
  - Allogeneic cellular immunotherapy – how are safety and efficacy obstacles being addressed in early clinical studies (eg. through gene editing)?
  - What progress in engaging and harnessing innate immune system mechanisms against solid tumors? (eg. NK cells, γδ T cells, , TLR or STING agonists)
  - Next-gen CARs (eg. TRUCKS and multi-targeted CARs, CAR macrophages)
- Are cancer vaccines back to stay? Assessing progress in alleviating long-standing delivery and target selection challenges
  - Personalized neoantigen-based cancer vaccines
- Oncolytic virotherapy: How are various platforms and payloads stacking up?
  - What might the future combination therapy picture look like?
  - How to leverage in patients with systemic metastatic disease?
- A pivotal year for bi-/tri-specific T cell engagers: are novel targets resulting in reduced toxicity and enhanced T cell activation in the clinic/against solid tumors?
- Cytokines: next steps in the development and I-O application of IL-2, IL-15, IL-18, etc.

## FEBRUARY

### Dissecting investor and market access trends and drivers for I-O R&D insights

- What are investors' and analysts' reflections on current vibrant market sentiment and associated VC/IPO activity, and their expectations for future financing trends in the I-O space? And what is their message for industry decision-makers?
- How will the market evaluate larger (but crowded) indications vs niche indications for I-O agents moving forward?
- What are the implications for patients, clinicians, regulators, and the field as a whole of recent I-O product withdrawals following conditional approvals?
- Mounting competition in the PD-1/PD-L1 arena: what will be the repercussions for:
  - Checkpoint inhibitor pricing and reimbursement? (Will we see a price war? What does that mean for the I-O industry, if so?)
    - When will we see the first PD-1 biosimilar? What will be its expected impact?
  - Combination therapy development strategy across the I-O sector?
- What novel/innovative pricing and reimbursement models are best suited to next-generation I-O therapeutics, particularly as they move into earlier lines of therapy? (Eg. pay by performance models)
- How can the community as a whole work to increase patient access to I-O therapeutics on a global basis?

## MARCH

### Optimizing clinical development strategy for the rapidly evolving I-O field

- Expanding the reach of immuno-oncology
  - Examining novel clinical trial endpoints in I-O studies – what's being considered across the field? Developers and regulator perspectives
  - Examining clinical development strategies and data for I-O agents in earlier lines of treatment/stages of disease – what lessons can the field take moving forward?
    - What does data obtained so far tell us about future I-O applications in the neoadjuvant and adjuvant settings?
  - How to approach the challenge of addressing metastatic disease with I-O?
  - What next for patients who acquire resistance to I-O drugs?
- What is needed at the strategic and practical levels to enable AI and machine learning to fully permeate the I-O space?
  - Allowing the integration of disparate data sets for efficient clinical development
- How to anticipate and alleviate the ongoing/future impact of COVID-19 pandemic-related disruption on immuno-oncology therapeutic clinical development?
- Where is clinical trial design innovation required by the immuno-oncology space?
  - Addressing the growing issue of underpowered early-phase trials
  - Harnessing the potential of adaptive trial designs for the I-O field
  - How to approach the challenge of predicting and planning for future standards of care when you are in early development?
- Evolving approaches to the intensifying I-O patient recruitment challenge (particularly for biomarker-heavy studies)

## APRIL

### Novel target and pathways: driving new approaches to tackling the TME and resistance to I-O therapeutics

- What are the key enabling technologies enhancing novel target identification and validation for antibody therapeutics and cellular immunotherapies? Exploring their capabilities and considerations for practical application
- What tools can assist in targeting tumor-associated antigens? (Eg. MHC, peptide recognition)
- Evaluating cellular immunotherapies (CAR T, TCR, NK, etc.) and bi/multispecific antibody therapies in solid tumor indications
  - Optimal approaches to improve specificity (eg. enhancing bispecific antibody avidity)
  - Which novel targets and pathways are showing promise in improving response rates, efficacy?
    - Understanding mechanisms of resistance (eg. to CAR T cell therapy in melanoma)
    - Targeting multiple antigens
    - What are the next steps towards personalizing immuno-oncology therapy to the individual TME?
- What progress with approaches to break up the tumor stroma, thus enabling penetration of TILs and other therapeutics?

## MAY

### Combination therapy development: strategic directions towards improving current I-O response rates

- What key learnings can we take from the latest wave of checkpoint inhibitor combination trials?
  - What are the chief considerations for combinations involving antibody drug conjugates? And what's next for this particular field?
  - Combinations with emerging checkpoint inhibitors – what is the data telling us?
  - Combinations with TKIs/targeted therapies
- How to further rationalize I-O combination therapy development?
  - Regulator perspectives: evolving regulatory thinking on combination therapy selection and trial design
- What unique insights into the TME are single cell RNAseq and spatial transcriptomic applications providing to help direct the design of combination regimens?

## JUNE

### Nonclinical tools update: are they improving in their capabilities of predicting clinical responses?

- Emerging animal models. (How to better humanize immune-compromised mice? Utilizing bespoke CRISPR-derived 'gene of interest' mice)
- Developing and validating appropriate cell models and organoids
- What can resected tumors tell us about what changes in the TME following I-O dosing?
- How to harness preclinical predictivity for co-stimulatory molecules?
- Why aren't preclinical models of antigen-specific T cells predictive of clinical success?
- How and where is the combination of preclinical and clinico-genomic data helping predict patient response?
- What are the keys to further accelerating speed to IND in the I-O space?
- Regulatory perspective: how to approach nonclinical toxicology studies for personalized I-O therapeutics given the lack of good animal models available?
- How to address cost and capability issues (of current DNA synthesis platforms, for example) to ensure continued advancement of synthetic biology in the I-O space?
- How should we reconsider or redesign our R&D approach from discovery onwards if we are targeting second- or third-line treatment with I-O agents from the get-go?

## JULY

### How to move towards precision I-O? Innovation in biomarker R&D

- Assessing the current state of play and identifying next steps in terms of discovering and developing reliable markers of response in solid tumors
  - What new directions in biomarker discovery can novel and emerging I-O agents open up for the field (eg. LAG-3, cellular immunotherapies)?
- What do resistance markers tell us about how to harness the innate immune system moving forward?
- Exploring the cutting edge in imaging tools and their application in I-O (eg. PET-based tracer studies to monitor immune response; leveraging early imaging predictors to gain an idea of response; delivering non-invasive markers of disease)
- What are the next steps for the field in capitalizing on the potential of single cell sequencing and analysis tools?
  - Mass cytometry for simultaneous multiple marker analysis
    - Harnessing CyTOF (cytometry by time of flight) in combination with spatial imaging
- Applying AI and machine learning to integrate biomarker data (eg. with longitudinal patient data) – what is practical both now and in the future?
- Evaluating the potential of circulating plasma exosomes
- What is the latest thinking in terms of the role of the microbiome and its impact on immune response?
- Who will fund and drive the high-risk/high-reward novel biomarker research required by the I-O field moving forward?

## SEPTEMBER

### Safety: what progress in understanding and addressing immune-related adverse events?

- How are the antibody therapeutic and cellular immunotherapy fields alike addressing the challenges of:
  - Suppressing irAEs (eg. CRS, neurotoxicity)?
  - Addressing on-target/off-tumor toxicity?
- Assessing the role of the innate immune system in the development of irAEs
- What platforms are demonstrating potential to aid in the prediction of toxicity?
- How to optimally manage cancer patients with past irAEs and/or autoimmune diseases?

## OCTOBER

### Leveraging the cutting-edge TME toolkit

- What is the current extent of our understanding of the 'how' and 'why' of hot and cold tumors?
  - Promising pathways to addressing the issue of T cell exhaustion
  - What are the relevant dendritic cells in human tumors?
- How and where is the application of key enabling technologies unlocking the secrets of the TME and tumor resistance to advance the immuno-oncology field?
  - Multiomics approaches (genomics, proteomics, transcriptomics)
  - Single cell analysis
    - Single cell RNA analysis (eg. of TILs)
  - Non-invasive spatial imaging
    - What can high parameter cytometry (flow and mass) tell us about cell-to-cell interactions in the TME?
  - Recent progress in understanding and measuring metabolism in situ in the TME (eg. measuring pH as a sign of immunoregulation)
- How to better utilize these tools to gain further insights into I-O mechanisms of action? (Eg. why do checkpoint inhibitors work?)
- How to address key data integration issues in deriving insights from novel analytical tools, particularly in terms of integration with disparate preclinical and clinical datasets?

# NOVEMBER

## Combination therapy development: emerging I-O therapeutic modalities and predictive technologies

- How and where are next-gen sequencing and analytical tools being effectively applied to improve predictability of safety and efficacy in the combination setting?
- Reviewing combination therapy considerations and challenges, and defining next steps, for:
  - Bi/trispecific antibodies
    - How to alleviate heightened toxicity risk for T cell redirection agents in combination?
  - Cellular immunotherapies
    - Which tools are delivering insights into optimal combinations for CAR T cell and other cellular immunotherapies?
    - What are optimal pre-conditioning regimens in the solid tumor setting?
    - Exploring the logic of combining innate and adaptive immune system approaches
  - Oncolytic virotherapies
  - What can the latest clinical outcomes from regimens combining anti-PD-1 antibodies with intra-lesional therapies (TLR, STING, oncolytic viruses) tell us about their ability to impact distant disease sites?

### Each spotlight will comprise:

- Peer-reviewed Reviews and Expert Insight articles written by leading experts in the field
- Webinars, featuring industry speakers and sponsors discussing key topics specific to the Spotlight
- Podcast, written and video interviews with key opinion leaders
- On demand roundtable discussions

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- **Generate qualified leads** from across the global sector
- **Increase awareness** of your company's role in cell and gene therapy R&D and manufacture.