
A2 Identify biomarkers associated with immunotoxicities using single-cell RNAseq. Jiamin Chen, Stanford University, Stanford, CA.

3 Disrupting enhancers within the core epigenetic program of exhaustion improves T-cell responses and enhances tumor control. Debattama R. Sen, Dana-Farber Cancer Institute, Boston, MA.

4 DNA methylation profiles associated with response to anti-PD-1 immunotherapy in non-small cell lung cancer. Jae-Won Cho, Yonsei University, Seoul, South Korea.


A6 A randomized phase II study of epigenetic priming with azacitidine and entinostat followed by nivolumab versus nivolumab monotherapy in previously treated metastatic non-small cell lung cancer. Kristen A. Marrone, SKCCC at Johns Hopkins University, Baltimore, MD.


A8 Immuno-phenotyping of tumor-specific CD8 T cells using high-dimensional mass cytometry. Brian Abel, immunoSCAPE, Cambridge, MA.

A9 Systemic immune response profiling with SYLARAS implicates a role for CD45R/B220+ CD8+ T cells in glioblastoma immunology. Gregory J. Baker, Harvard Medical School, Boston, MA.

A10 The MACSima™ platform enables high-content imaging for characterization and classification of glioblastoma multiforme. Heike Leyendeckers, Miltenyi Biotec GmbH, Bergisch Gladbach, Germany.

A11 Irreversible electroporation is an effective tumor-ablation strategy that induces immunologic cell death and promotes systemic antitumor immunity. Irving C. Allen, Virginia Tech, Blacksburg, VA.

A12 Inhibition of protease-activated receptor 4 (PAR4) suppresses C4a-induced invasion of lung cancer cells in vitro. Hongbin Wang, California Northstate University, Elk Grove, CA.

A13 Leveraging Zika virus and the immune system to treat glioblastoma. Milan G. Chheda, Washington University School of Medicine, St. Louis, MO.

A14 Neoepitope-specific CD8+ T cells in adoptive T-cell transfer. Nikolaj Pagh Kristensen, Experimental and Translational Immunology, Department of Health Technology, Technical University of Denmark (DTU), Kgs. Lyngby, Denmark.

A16 A GUCY2c-CD3 bispecific engages T cells to induce cytotoxicity in gastrointestinal tumors. Divya PUja Sapra, Pfizer Inc., Pearl River, NY.

A17 Enhanced immune infiltration and antitumor immune reactivity in response to optical priming in pancreatic cancer. Pushpamali De Silva, Harvard Medical School and Massachusetts General Hospital, Boston, MA.

A18 Investigating CDK4/6 inhibition in triple-negative breast cancer. Qichen Guo, Brigham and Women's Hospital, Harvard Medical School, Boston, MA.


A20 Cancer cell-intrinsic expression of MHCII regulates the immune microenvironment and response to immune therapy in lung adenocarcinoma. Amber M. Johnson, University of Colorado Anschutz Medical Campus, Aurora, CO.

A21 Tumor-derived RNA nanoparticle vaccines modulate the effector immune response against resistant head and neck squamous cell carcinoma. Rekha R. Garg, University of Florida, Gainesville, FL.


A23 Proteogenomic discovery of novel tumor proteins as neoantigens for personalized T-cell immunotherapy in pediatric medulloblastoma. Samuel Rivero-Hinojosa, Center for Cancer and Immunology Research, Children’s Research Institute, Children's National Medical Center, Washington, DC.

A24 Mature dendritic cells correlate with favorable immune infiltrate and improved prognosis in ovarian carcinoma patients. Sarka Vosahlikova, SOTIO, a.s., Prague, Czech Republic.

A25 Differentiation of human naive T cells to various effector memory cell subtypes correlates with increased binding of the B subunit of Type-IIb heat-labile enterotoxin (LT-IIb-B5) to its cognate ganglioside receptors. Taylor A. Johnson, University of South Carolina School of Medicine Greenville, Greenville, SC.

A26 Towards the identification of novel tumor antigens in human lung cancer. Shin-Heng Chiou, Diane Tseng, Stanford University, Stanford, CA.


A28 A comparison of a DNA-sourced neoantigen vaccine to an RNA-sourced frameshift vaccine in the mouse ovarian cancer model. Milene Tavares Batista, Arizona State University, Tempe, AZ.
A29 The genomic architecture of serous carcinomas shapes the tumor microenvironment and modulates responses to targeted and immunotherapies. Sonia Iyer, Whitehead Institute for Biomedical Research, Cambridge, MA.

A30 Combined IDO inhibitor and OX40L-armed-oncolytic-adenovirus therapy improves survival in murine glioblastoma. Teresa T. Nguyen, The Graduate School of Biomedical Sciences and the Department of Neuro-Oncology at The University of Texas Health MD Anderson Cancer Center, Houston, TX.

A31 High aneuploidy levels are linked to a reduced immune-cell abundance in metastatic castrate-resistant prostate cancer. Thiago Vidotto, Department of Pathology, School of Medicine, Johns Hopkins Hospital, Baltimore, MD.

A32 Characterizing patterns of cytokine coexpression with immune checkpoint markers in CD4 and CD8 tumor-infiltrating lymphocytes. Luigi Marchionni, Johns Hopkins University School of Medicine, Baltimore, MD.

A33 High-throughput prediction of MHC Class I and Class II neoantigens with MHCnuggets. Xiaoshan M. Shao, Johns Hopkins University, Baltimore, MD.

A34 Cancer immunotherapy clinical trials in K-MASTER project. Yeul Hong Kim. Korea University Anam Hospital, Seoul, Korea.

A35 Polymorphisms in SIRPA impact macrophage phagocytosis in response to therapeutic antibody blockade. Ying Y. Yiu, Stanford School of Medicine, Stanford, CA.

A36 Single-cell characterization of tumor-infiltrating T cells from renal cell carcinoma. Yuexin Xu, Fred Hutchinson Cancer Research Center, Seattle, WA.


A38 Targeting the androgen receptor to increase sensitivity to checkpoint immunotherapy, Amy Moran. Oregon Health & Science University, Portland, OR.

A39 A therapeutic strategy to inhibit Wnt signaling also reprograms breast tumor-immune cell interactions: Perspectives for conferring immune checkpoint inhibitor susceptibility. Amy S. Yee. Tufts University School of Medicine, Boston, MA.

A41 Absence of central tolerance as a sculpting mechanism of immune-checkpoint therapy. Asiel A. Benitez, Regeneron Pharmaceuticals, Inc., Tarrytown, NY.

A42 Development of new immune therapy combinations for ovarian cancer using genetically defined organoid platform. Benjamin G. Neel. Laura and Isaac Perlmutter Cancer Center, NYU Langone Health, New York, NY.

A43 Exploiting off-target effects of estrogen receptor-targeting drugs to sensitize breast cancer to immune killing. Benjamin Wolfson, National Cancer Institute, Bethesda, MD.
**A44** Pharmacologic targeting of estrogen receptor in melanoma to enhance antitumor immunity. Binita Chakraborty, Duke University, Durham, NC.

**A45** Overexpression of MAVS stimulates antitumor immunity and significantly reduces tumor growth of immune-insensitive colorectal cancer in vivo. Bin-Jin Hwang, Duke University, Durham, NC.

**A46** CD73 inhibition enhances the effect of anti-PD-1 therapy on KRAS-mutated pancreatic cancer model. Caius G. Radu, UCLA, Los Angeles, CA, 2Arcus Biosciences, Hayward, CA.

**A47** scRNA-seq reveals functionally distinct gd T cells in human colorectal tumors. Cathal Harmon, Brigham and Women’s Hospital, Boston, MA.

**A48** Inactivation of Fbxw7 impairs dsRNA sensing and confers resistance to PD-1 blockade. Cécile Gstalder, Dana-Farber Cancer Institute, Boston, MA.

**A49** Acquired resistance of non-small cell lung cancer to EGFR-TKI: Role of AKT3. Ching-Chow Chen, Department of Pharmacology, College of Medicine, National Taiwan University, Taipei, Taiwan.

**A50** Reprogramming of tumor-associated M2 macrophages with antisense oligonucleotide-loaded exosomes results in potent single-agent antitumor activity. Dalia Burzyn, Codiak Biosciences, Cambridge, MA.

**A51** Impact of CaMKK2 inhibition in tumor-associated myeloid cells on CD8+ cytotoxic T-cell recruitment into mammary tumors. Debarati Mukherjee, Duke University, Durham, NC.

**A52** Systemic anti-PD-1 immunotherapy results in PD-1 blockade on T cells in the cerebrospinal fluid. Dongrui Wang, City of Hope, Duarte, CA.

**A53** Phosphorylation of eIF4E promotes phenotype switching and MDSC-mediated immunosuppression in melanoma. Fan Huang, Division of Experimental Medicine, McGill University, Montreal, QC, Canada.

**A54** Transient depletion of MDSCs and Tregs as an effective immunotherapy against triple-negative breast cancer (TNBC). Sadiya Parveen, Division of Infectious Diseases, Department of Medicine, Johns Hopkins School of Medicine, Baltimore, MD.

**A55** Uncovering the mechanism of Trib1 in cancer immunotherapy. Franklin Iheanacho, University of Pennsylvania, Philadelphia, PA.

**A56** Releasing the brake on T-cell activation through inhibition of HPK1. Gayathri Bommakanti, Astrazeneca, Waltham, MA.

**A57** βhCG regulates immune cell population in BRCA1 mutated breast cancers. Geetu Rose Varghese, Centre for Biotechnology, Thiruvananthapuram, Kerala, India.

A59 Inhibition of Glycogen Synthase Kinase 3 (GSK-3) synergizes with anti-PD-1 by potentiating tumor-infiltrated CD8+ T-cells. Janna Krueger, Division of Immunology-Oncology, Hospital Maisonneuve-Rosemont Research Center, Montreal, QC, Canada.


A61 Human leukocyte antigen G as a novel target for switch-based chimeric antigen receptor natural killer cell therapy of solid cancers. Chia-Ing Jan, China Medical University Hospital, Taichung, Taiwan.

A62 Inhibition of tumor growth by novel CART redirected against cells expressing high levels of fibroblast activation protein. Estela Noguera-Ortega, University of Pennsylvania, Philadelphia, PA.

A64 In vitro induction of human tissue resident memory phenotype T-cells for use in adoptive cellular therapy. Farah Hasan, University of Texas MD Anderson Cancer Center, Houston, TX.


A68 Combining Deep IL-12 Primed™ and Deep IL-15 Primed™ T cells induces potent antigen-dependent in vitro cytotoxicity and in vivo antitumor activity. Elena Geretti, Torque, Cambridge, MA.

A69 Identification of HLA-A0201 restricted epitope of cancer/testis antigen (CTA) Hormad1 and generation of antigen-specific T-cell receptor-engineered T cells (TCR-T) for treatment of solid tumor malignancies. Ke Pan, University of Texas MD Anderson Cancer Center, Houston, TX.

A70 Bridging nonclinical studies to clinical design using quantitative systems pharmacology model of T cell-engaging bispecifics. Jennifer Park, Applied BioMath, Concord, MA.

A71 Chitinase-3-like-1: A new immunomodulatory target in lung cancer. Bedia Akosman, Brown University, Providence, RI.

A72 Novel approach for upregulation of endogenous immunostimulatory targets for cancer therapy. Choon Ping Tan, MiNA Therapeutics, London, United Kingdom.

A73 Fucosylation in CD4+ T cell-mediated melanoma suppression. Daniel K. Lester,. H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL.

A74 Loss of L-selectin distinguishes activated B cells destined to differentiate to plasma cells. Dillon G. Patterson, Emory University, Atlanta, GA.
A75 Efficacy of novel immunogene combinations for Kras and LKB1 mutant NSCLC in a humanized mouse model. Ismail M. Meraz, Thoracic and Cardiovascular Surgery, University of Texas MD Anderson Cancer Center, Houston, TX.

A76 Efficacy of immunotherapy agents in patients with metastatic breast cancer treated in phase I clinical trials. Jodi A. Kagihara, University of Colorado Anschutz Medical Campus, Aurora, CO.

A77 Antibody targeting tumor-derived soluble NKG2D ligand sMIC provides dual costimulation of CD8 T cells and enables sMIC+ tumors to respond to PD1/PD-L1 blockade therapy. Jennifer Wu, Medical University of South Carolina, Charleston, SC.

A78 Preclinical evaluation of 3D185, a novel potent inhibitor of FGFR1/2/3 and CSF-1R, in FGFR-dependent and macrophage-dominant cancer models. Jing Ai, Shanghai Institute of Materia Medica, Shanghai, China.


A80 Mapping immune landscape in clear cell renal carcinoma by single-cell genomics. Ajaykumar Vishwakarma, MGH Cancer Center/Harvard Medical School/Broad Institute of MIT and Harvard/University of Iowa, Boston, MA.

A81 Identifying cellular immune components that correlate with response to immunotherapy in breast cancer using murine models. Anita K. Mehta, Dana-Farber Cancer Institute, Boston, MA.

A82 Direct and indirect regulators of epithelial-to-mesenchymal transition mediated immunosuppression in breast carcinomas. Anushka Dongre, Whitehead Institute for Biomedical Research, Cambridge, MA.

A83 Subsets of exhausted CD8+ T cells differentially mediate tumor control and respond to checkpoint blockade. Brian C. Miller, Dana-Farber Cancer Institute, Boston, MA.


A85 Prediagnostic 25-hydroxyvitamin D concentrations in relation to tumor molecular alterations and risk of breast cancer recurrence. Cheng Peng. Brigham and Women’s Hospital, Boston, MA.

A86 Comparative immunophenotypic analysis of immunogenically warm and cold syngeneic tumor models at baseline and after anti-mCTLA-4 treatment. David Draper, MI Bioresearch, Ann Arbor, MI.

A87 The A2AR antagonist AZD4635 prevents adenosine-mediated immunosuppression in tumor microenvironment and enhances antitumor immunity partly by enhancing CD103+ dendritic cells. Dinesh Chandra, AstraZeneca, Boston, MA.

A88 RUNX1-deficiency in luminal mammary epithelial cells leads to development of a unique type of immune “hot” ER+ mammary tumor. Dongxi Xiang, Brigham & Women’s Hospital and Harvard Medical School, Boston, MA.
A89 Microglial galectin-3 enhances the metastatic phenotype of breast cancer cells in brain metastases. DreeAnna F. Morris, Oregon Health & Science University, Portland, OR.

A90 Blocking proinvasive signaling and inflammatory activation in triple-negative breast cancer with nucleic-acid scavengers (NAS). Elias O.U. Eteshola, Duke University Medical Center, Durham, NC.


A92 Analysis of lung-resident macrophages as potential regulators of disseminated tumor cell fate. Erica Dalla, Icahn School of Medicine at Mount Sinai, New York, NY.


A94 Metabolically reprogram MDSCs by targeting Pim kinases to overcome resistance to PD-1 blockade immunotherapy. Gang Xin, Blood Research Institute, Blood Center of Wisconsin, Milwaukee, WI.

A95 Neoantigen sequence similarity to pathogens and commensals determines immune phenotype of cancer samples and patient survival. Gergo Mihaly Balogh, University of Szeged, Szeged, Hungary.

A96 Correlation of estrogen receptor beta with immune cells in colon cancer patients. Geriolda Topi, Lund University, Skane University Hospital, Malmo, Sweden.

A97 Neutrophil extracellular traps (NETs) promote immune escape and metastatic growth after surgical stress. Hamza O. Yazdani, University of Pittsburgh, Pittsburgh, PA.

A98 Cancer-associated fibroblasts promote immunosuppression by inducing NOX2-expressing monocytic MDSCs in lung squamous cell carcinoma. Handan Xiang, Merck & Co., Inc., Boston, MA.

A99 Endothelial cell activation in the conditional Vhlh knockout kidney through oncostatin M pathway. Hieu-Huy Nguyen-Tran, Department of Biomedical Sciences and Engineering, Taoyuan, Taoyuan, Taiwan.

A100 Downregulation of type 1 interferon receptor (IFNAR1) regulates the balance of regulatory T cells (Tregs) and cytotoxic T lymphocytes (CTLs) in tumor microenvironment. Hongru Zhang, University of Pennsylvania, Philadelphia, PA.

A101 Single-cell analysis reveals the pivotal role of the innate immune compartment in aCTLA-4 antitumor response. Ido Yofe, Weizmann Institute of Science, Rehovot, Israel.

A102 The prognostic impact of different immune landscapes in patients with stage I-III colorectal cancer. Jitwadee Inthagard, University of Glasgow, Glasgow, United Kingdom.

A103 Transcriptional profiles of CD14+ cells in situ in melanoma reveal plasticity, localization-dependent function, and specific T-cell interactions. Jan Martinek, The Jackson Laboratory for Genomic Medicine, Farmington, CT.
A104 A stochastic model of tumor-immune evasion predicts sustained coevolution and tumor antigen downregulation. Jason T. George, Rice University, Houston, TX.

A105 PARP inhibition modulates the infiltration, phenotype, and function of tumor-associated macrophages (TAMs) in BRCA-associated breast cancer and can be augmented by harnessing the antitumor potential of TAMs. Jennifer L. Guerriero, Dana-Farber Cancer Institute, Boston, MA.

A106 The long noncoding RNA HOTAIRM1 promotes sorafenib resistance via regulating autophagy in hepatocellular carcinoma. Jiang Chen, Department of General Surgery, Sir Run Run Shaw Hospital, School of Medicine, Zhejiang University, Hangzhou, Zhejiang, China; Department of Radiation Oncology, Massachusetts General Hospital, Harvard Medical School, Boston, MA.

A107 Microfluidics and oncoimmunology: New in vitro models to study solid tumor immunotherapy. Jose M. Ayuso, University of Wisconsin, Madison, WI.

A108 Identification of distinct fibroblast populations with unique roles in PDAC progression and tumor immunity. J. Kebbeh Darpolor, University of Texas MD Anderson Cancer Center, Houston, TX.

A109 Cabozantinib sensitizes microsatellite stable colorectal cancer to immune checkpoint inhibition by immune modulation in humanized mouse models. Julie Lang, University of Colorado Anschutz Medical Campus, Aurora, CO.