WHAT WE'RE READING

A Sampling of Highlights from the Literature

PRIORITY BRIEF

Activation of CD8\(^+\) T Cells Contributes to Antitumor Effects of CDK4/6 Inhibitors plus MEK Inhibitors

Jessica L.F. Teh, Dan A. Erkes, Phil F. Cheng, Manoela Tiago, Nicole A. Wilski, Conroy O. Field, Inna Chervoneva, Mitch P. Levesque, Xiaowei Xu, Reinhard Dummer, and Andrew E. Aplin

Although melanoma is treated with immune checkpoint inhibitors, many patients respond poorly. The success of MEK inhibitors and CDK4/6 inhibitors depends on an intact immune system. Combination therapy may improve response to checkpoint inhibitors.

RESEARCH ARTICLES

Tenascin-C Orchestrates an Immune-Suppressive Tumor Microenvironment in Oral Squamous Cell Carcinoma


Tenascin-C, an extracellular matrix protein, contributes to immune suppression in head and neck tumors. Tenascin-C orchestrates immune-suppressive niches by directing spatial distribution of Tregs and myeloid cells, leading to invasive disease.

Potent Cytolytic Activity and Specific IL15 Delivery in a Second-Generation Trispecific Killer Engager

Martin Felices, Todd R. Lenvik, Behiye Kodal, Alexander J. Lenvik, Peter Hinderlie, Laura E. Bendzick, Dawn K. Schirm, Michael F. Kaminski, Ron T. McElmurry, Melissa A. Geller, Craig E. Eckfeldt, Daniel A. Vallerà, and Jeffrey S. Miller

A next-generation NK-cell engager is developed, incorporating a specific anti-CD16 sequence that promotes IL15 delivery and acute myeloid leukemia killing. This trispecific engager could provide an off-the-shelf treatment capable of engaging endogenous NK cells for targeted cancer therapy.

SRC-3 Functions as a Coactivator of T-bet by Regulating the Maturation and Antitumor Activity of Natural Killer Cells

Mengjia Hu, Yukai Lu, Yan Qi, Zihao Zhang, Song Wang, Yang Xu, Fang Chen, Yong Tang, Shilei Chen, Mo Chen, Changhong Du, Mingqiang Shen, Fengchao Wang, Yongping Su, Youcai Deng, and Junping Wang

The steroid receptor coactivator 3 (SRC-3) is involved in NK-cell maturation, with SRC-3 deficiency leading to decreased antitumor NK-cell responses. Specifically, T-bet recruits SRC-3 in NK cells, in turn regulating the transcription of T-bet target genes.

CAMKID Triggers Immune Resistance of Human Tumor Cells Refractory to Anti–PD-L1 Treatment

Valentina Volpin, Tillman Michels, Antonio Sorrentino, Ayse N. Menevse, Gertrud Knoll, Madlen Dit, Vladimir M. Milenkovic, Chih-Yeh Chen, Anchana Rathinasamy, Klaus Griewank, Michael Boutros, Sebastian Haferkamp, Mark Berneburg, Christian H. Wetzol, Anja Sckinger, Dirk Hose, Hartmut Goldschmidt, Martin Ehrenschwender, Mathias Witzens-Harig, Arpad Szoor, Gyorgy Veb, Nisit Khandelwal, and Philipp Beckhove

CD40 Agonist Restores the Antitumor Efficacy of Anti-PD1 Therapy in Muscle-Invasive Bladder Cancer in an IFN I/II-Mediated Manner

Marine M. Leblond, Laure Tillé, Sina Nassiri, Connie B. Gilfillan, Claire Imbratta, Martina Schmittnaegel, Carola H. Ries, Daniel E. Speiser, and Grégory Verdeil

Bladder cancer is resistant to anti-PD1 therapy. The combination of anti-PD1 plus a CD40 agonist overcomes anti-PD1 resistance, inducing T-cell-, macrophage-, and IFN I/II-dependent antitumor immunity.

Chemotherapeutic Tumor Microparticles Elicit a Neutrophil Response Targeting Malignant Pleural Effusions

Pingwei Xu, Ke Tang, Jingwei Ma, Huafeng Zhang, Dianheng Wang, Liyan Zhu, Jie Chen, Keke Wei, Jincheng Liu, Haiqing Fang, Liang Tang, Yi Zhang, Jing Xie, Yuying Liu, Rui Meng, Li Liu, Xiaorong Dong, Kunyu Yang, Gang Wu, Fei Ma, and Bo Huang

Tumor cell-derived microparticles packaging a chemotherapeutic agent can induce neutrophil responses, which contribute to tumor killing and malignant pleural effusion (MPE) reduction. The data suggest that the microparticles could be a potential MPE therapy in patients.

A Genetic Screen to Identify Gain- and Loss-of-Function Modifications that Enhance T-cell Infiltration into Tumors

Laura M. Rogers, Zhaoming Wang, Sarah L. Mott, Adam J. Dupuy, and George J. Weiner

An in vivo screen with the ability to induce gain-of-function mutations identifies genes that may enhance T-cell trafficking into tumors. These represent candidate targets that could be altered to enhance intratumoral trafficking of adoptively transferred T cells.

Enzalutamide, an Androgen Receptor Antagonist, Enhances Myeloid Cell–Mediated Immune Suppression and Tumor Progression

Camila R. Consiglio, Olga Udartseva, Kimberly D. Ramsey, Chioma Bush, and Sandra O. Gollnick

Androgen receptor (AR) antagonism is an effective treatment for prostate cancer patients, yet many experience tumor progression. AR blockade increases tumor growth by shifting myeloid cells to a protumoral phenotype via AMPK signaling.