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The Cerebroventricular Environment Modifies CAR T Cells for Potent Activity against Both Central Nervous System and Systemic Lymphoma


In the clinic, CD19-CAR T cells are administered IV and are not used specifically to treat CNS lymphoma. The authors show a single ICV infusion of CD19-CAR T cells completely eradicates both CNS and systemic lymphoma in mice.

Activin A Promotes Regulatory T-cell–Mediated Immunosuppression in Irradiated Breast Cancer

Mara De Martino, Camille Daviaud, Julie M. Diamond, Jeffrey Kraynak, Amandine Alard, Silvia C. Formenti, Lance D. Miller, Sandra Demaria, and Claire Vanpouille-Box


Improved T-cell Receptor Diversity Estimates Associate with Survival and Response to Anti–PD-1 Therapy

Dante S. Bortone, Mark G. Woodcock, Joel S. Parker, and Benjamin G. Vincent

Inaccurate TCR diversity estimates from RNA sequencing data have made the relationship between diversity and immunotherapy responses unclear. Improved estimation of diversity uncovers the association between diversity and responses of melanoma patients treated with PD-1 inhibition.

Sialylation of CD55 by ST3GAL1 Facilitates Immune Evasion in Cancer

Wen-Der Lin, Tan-Chi Fan, Jung-Tung Hung, Hui-Ling Yeo, Sheng-Hung Wang, Chu-Wei Kuo, Kay-Hooi Khoo, Li-Mei Pai, John Yu, and Alice L. Yu

Silencing of the ST3GAL1 glycosyltransferase in breast cancer cells reduces O-sialylation of CD55, enhancing C3 deposition and susceptibility to complement- and antibody-dependent cytotoxicity. These findings suggest ST3GAL1 inhibition could be a strategy to block breast cancer immune evasion.

Acknowledgment to Reviewers

ABOUT THE COVER

The prognostic value of tumor-associated macrophages (TAM) remains to be fully elucidated. By combining multiplex immunofluorescence with digital analysis and machine learning, Väyrynen et al. show that TAM subsets have distinct prognostic roles in patients with colorectal cancer. Total intraepithelial and stromal TAM densities are not prognostic. Rather, TAM polarization is key, with M2-like TAMs correlating with worse cancer-specific survival. Interestingly, a survival benefit is not seen when assessing M1-like TAMs in the tumor stromal region, although high M1:M2 density ratio is associated with better survival. The study highlights the importance of utilizing multiplex analysis to more accurately determine the prognostic value of immune-cell subsets, as total population assessment or single-marker analysis may mask underlying associations. Read more in this issue on page 8. Original image from Supplementary Fig. S3B. Artwork by Lewis Long.