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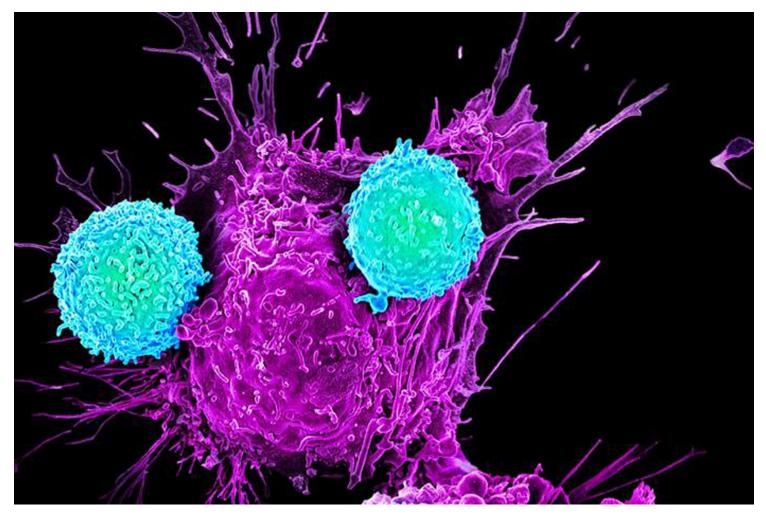
Prasad S. Adusumilli, MD Professor and Deputy Chief, Thoracic Service; Vice Chair for Translational Research, Dept. of Surgery; Co-Director, MSK Mesothelioma Program; Min H. and Yu-Fan C. Kao Chair in Thoracic Cancers

Research led by Prasad S. Adusumilli focuses on investigation of the tumor immune microenvironment and the development of Tcell-mediated immunotherapy for thoracic malignancies and pleural-based diseases. His team has championed regional immunotherapy delivery strategies, resulting in translation of mesothelin-targeted CAR T-cell immunotherapy for malignant pleural mesothelioma, lung, and breast cancers.



View Lab Overview

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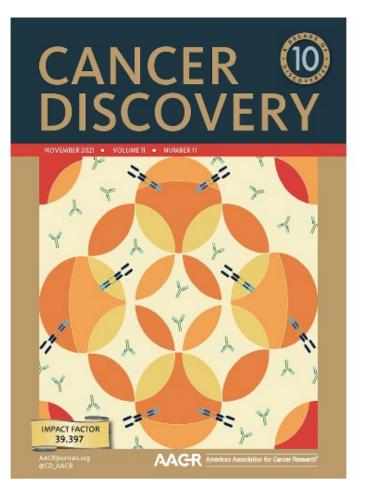
Cover Image from J Clin Invest Aug 1 2016. Cherkassky L, Morello A, Villena-Vargas J, Feng Y, Dimitrov DS, Jones DR, Sadelain M, Adusumilli PS. Human CAR T cells with cell-intrinsic PD-1 checkpoint blockade resist tumor-mediated inhibition. J Clin Invest. 2016;126(8):3130-44



Cover Image from J Clin Invest Aug 1 2016. Cherkassky L, Morello A, Villena-Vargas J, Feng Y, Dimitrov DS, Jones DR, Sadelain M, Adusumilli PS. Human CAR T cells with cell-intrinsic PD-1 checkpoint blockade resist tumor-mediated inhibition. J Clin Invest. 2016;126(8):3130-44.



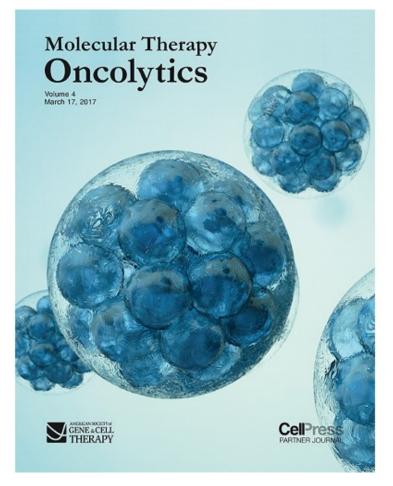
Cover Image from J Thoracic Oncology Jan 2022. Gross DJ, Chintala NK, Vaghjiani RG, Grosser R, Tan KS, Li X, Choe J, Li Y, Aly RG, Emoto K, Hua Z, Dux J, Cheema W, Bott MJ, Travis WD, Isbell JM, Li BT, Jones DR, Adusumilli PS. Tumor and Tumor-Associated Macrophage PD-L1 Expression is Associated with Adjuvant Chemotherapy Benefit in Lung Adenocarcinoma. J Thorac Oncol. 2022;17(1):89-102.



Cover Image from Cancer Discovery Nov 2021. Adusumilli PS, Zauderer MG, Rivière I, Solomon SB, Rusch VW, O'Cearbhaill RE, Zhu A, Cheema W, Chintala NK, Halton H, Pineda J, Perez-Johnston R, Tan KS, Daly B, Araujo Filho JA, Ngai D, McGee E, Vincent A, Diamonte C, Sauter JL, Modi S, SikderD, Senechal B, Wang X, Travis WD, Gönen M, Rudin CM, Brentjens RJ, Jones RJ, Sadelain M. A phase I trial of regional mesothelin-targeted CAR T-cell therapy in patients with malignant pleural disease, in combination with the anti-PD-1 agent pembrolizumab. Cancer Discov. 2021;11(11):2748-2763.



Cover Image from J Thoracic Oncology Jan 2018. Kiesgen S, Chicaybam L, Chintala NK, Adusumilli PS\*. Chimeric antigen receptor (CAR) T-cell therapy for thoracic malignancies. J Thorac Oncol. 2018;13(1):16-26.



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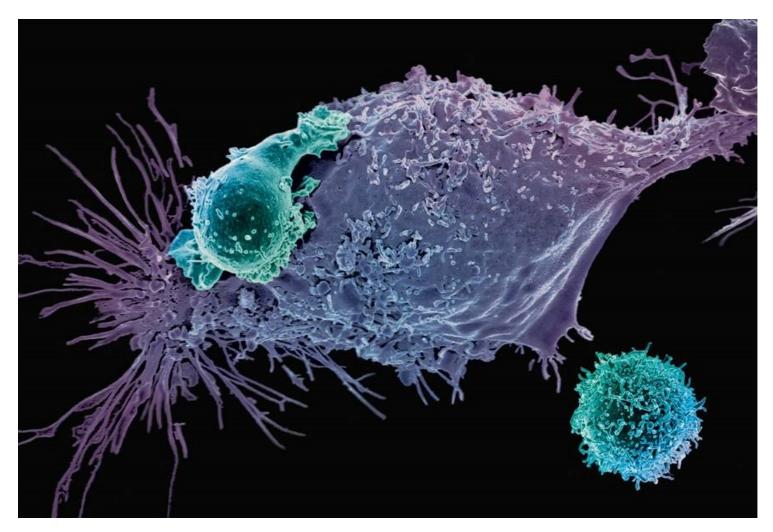


Image from Science Sept 2016. Couzin-Frankel J. (2016, September 2). Second chapter. Science. 353(6303):983-5.5.



Cover Image from Cancer Immunology Research Oct 2023. Quach HT, Skovgard MS, Villena-Vargas J, Bellis RY, Chintala NK, Amador-Molina A, Bai Y, Banerjee S, Saini J, Xiong Y, Vista WR, Byun AJ, De Biasi A, Zeltsman M, Mayor M, Morello A, Mittal V, Gomez DR, Rimner A, Jones DR, Adusumilli PS. Tumor-Targeted Nonablative Radiation Promotes Solid Tumor CAR T-cell Therapy Efficacy. Cancer Immunol Res. 2023 Oct 4;11(10):1314-1331. doi: 10.1158/2326-6066.CIR-22-0840. PMID: 37540803; PMCID: PMC10592183.

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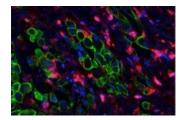


## New Design Could Make CAR T Cells a More Effective Immunotherapy for Solid Tumors

Learn how researchers engineered CAR T cells to work better by using a mutation in a gene called c-KIT that drives cancer cell growth.

IN THE CLINIC

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### CAR Therapy for Solid Tumors Draws Attention at Annual Cancer

#### **Conference**

Results from a clinical trial indicate that an experimental CAR therapy for mesothelioma is safe.



## New Finding Could Predict Which People with Lung Cancer Will Benefit from Chemotherapy

Researchers identify a biomarker that could predict which lung cancer patients will respond to chemotherapy.

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# **Publications Highlights**

Xiong Y, Taleb M, Misawa K, Hou Z, Banerjee S, Amador-Molina A, Jones DR, Chintala NK, Adusumilli PS. c-Kit signaling potentiates CAR T-cell efficacy in solid tumors by CD28- and IL-2–independent costimulation. *Nat Cancer*. 2023;4(7):1001-1015. [PMID: 37336986]

Quach HT, Skovgard MS, Villena-Vargas J, Bellis RY, Chintala NK, Amador-Molina A, Bai Y, Banerjee S, Saini J, Xiong Y, Vista WR, Byun AJ, De Biasi A, Zeltsman M, Mayor M, Morello A, Mittal V, Gomez DR, Rimner A, Jones DR, Adusumilli PS. Tumor-targeted non-ablative radiation promotes solid tumor CAR T-cell therapy efficacy. *Cancer Immunol Res.* 2023;11(10):1314-1331. [PMID: 37540803]

Adusumilli PS, Zauderer M, Riviere I, ...Jones DR, Sadelain M. A phase I trial of regional mesothelin-targeted CAR T-cell therapy in patients with malignant pleural disease, in combination with the anti-PD1 agent pembrolizumab. *Cancer Discov. 2021 Nov;11(11):2748-2763.* [PMID: 34266984]

<u>Cherkassky L, Morello A, Villena-Vargas J, Feng Y, Dimitrov DS, Jones DR, Sadelain M, Adusumilli PS. Human CAR T</u> cells with cell-intrinsic PD-1 checkpoint blockade resist tumor-mediated inhibition. *J Clin Invest.* 2016;126(8):3130-3144. [PMID: 27454297]

Adusumilli PS, Cherkassky L, Villena-Vargas J, Colovos C, Servais E, Plotkin J, Jones DR, Sadelain M. Regional delivery

of mesothelin-targeted CAR T cell therapy generates potent and long-lasting CD4-dependent tumor immunity. *Sci Transl Med.* 2014;6(261):261ra151. [PMID: 25378643]

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## People



Professor and Deputy Chief, Thoracic Service; Vice Chair for Trans ational Research, Dept. of Surgery; Co-Director, MSK Mesothelioma Program; Min H. and Yu-Fan C. Kao Chair in Thoracic Cancers

Physician-scientist Prasad S. Adusumilli studies tumor immunology and the development of T-cell-mediated immunotherapy for thoracic malignancies and pleural-based diseases.

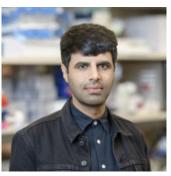
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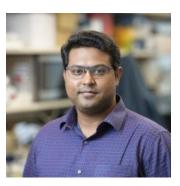
### Members



Lara Cani Clinical Research Coordinator



Waseem Cheema Research Project Manager



Navin K Chintala Senior Research Assistant



Victoria Cranwell Research Fellow

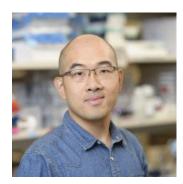




Patrick Evans Project Manager



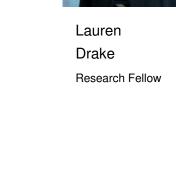
Undrakh Ganbaatar Research Fellow



Zhaohua Hou Senior Research Scientist



Jasmeen Saini





Kyohei Misawa

Viviana Rubino



Jesus Guzman Valle

Senior Research

Technician

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Sarah Sadik Clinical Research Coordinator

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