Stanford



Crystal Mackall

Ernest and Amelia Gallo Family Professor and Professor of Pediatrics and of Medicine

Pediatrics - Hematology & Oncology

NIH Biosketch available Online Curriculum Vitae available Online

CONTACT INFORMATION

- **Administrative Contact**

  Carol Sinoben - Executive Asst.

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  Tel 650-725-9670

Bio

BIO

Crystal L Mackall MD is the Ernest and Amelia Gallo Family Professor and Professor of Pediatrics and Medicine at Stanford University, the Founding Director of the Stanford Center for Cancer Cell Therapy, Co-Leader of the Stanford Cancer Immunotherapy Program and Director of the Parker Institute for Cancer Immunotherapy @ Stanford. During a career spanning more than three decades, she has led an internationally recognized translational research program focused on immune-oncology. Her work has advanced understanding of fundamental immunology and translated this understanding for the treatment of human disease with a major focus on children's cancers. She has led numerous first-in-human and first-in-child clinical trials spanning dendritic cell vaccines, cytokines, and adoptive immunotherapy using NK cells and genetically modified T cells. Her work is credited with identifying an essential role for the thymus in human T cell regeneration (NEJM 1995) and discovering IL-7 as the master regulator of T cell homeostasis (Blood 2001, J Exp Med 2008). Her group was among the first to demonstrate impressive activity of CD19-CAR in pediatric leukemia (Lancet 2015), established the first grading scale and management guidelines for cytokine release syndrome (Blood 2014), and developed CD22-CAR, an effective salvage therapy for CAR19 resistant B cell malignancies (Nat Med 2018, J Clin Onc 2020, Blood 2021, Lancet 2024). She is leading a team demonstrating impressive activity of GD2 targeting CARs for pediatric diffuse intrinsic pontine glioma (Nat Med 2018, Nature 2022, Nature 2025), arguably the first data to demonstrate significant activity of CAR T cells in solid cancers. Using both bench-based and patient centered discovery research, she has led globally in defining mechanisms of resistance to T cell immunotherapies and creating and testing next generation platforms engineered to overcome resistance. Her group was the first to identify T cell exhaustion as a major cause of CAR T cell failure (Nat Med 2015), then created the first exhaustion-resistance (Nature 2019) and exhaustion-reversal platforms (Science 2021). Her group discovered a role for mediator kinase in regulating T cell differentiation (Science 2022) and a role for FOXO1 in regulating T cell memory (Nature 2024), implicated macrophage mediated clearance of activated T cells in resistance to cell therapies and created an engineered CD47 to overcome this axis (Nature 2025). Mackall's group uses synthetic biology to engineer safer and more effective cellular therapeutics, including creation of a best-in-class regulatable "remote-controlled" CAR T cell platform (Cell, 2022) and multiplex gene regulation via Cas13d based RNA degradation (Cell, 2024). She is a member of the National Academy of Medicine, American Society of Clinical Investigation and American Academy of Physicians and is a fellow of the AACR Academy and the Academy of Immuno-oncology. She was the recipient of the Lloyd Old Award in 2025 for outstanding and innovative research in cancer immunotherapy from the Cancer Research Institute, the Smalley Award in 2021 for outstanding contributions to cancer immunotherapy from the Society for the Immunotherapy

of Cancer, the AACR-St.Baldrick's Distinguished Achievement Award in 2021 for Pediatric Cancer Research, the Nobility in Science Award from the Sarcoma Foundation of America in 2022 and the Edward Netter Leadership Award from the Alliance for Cancer Gene Therapy in 2023. She has published over 300 manuscripts and her h-index in January 2026 according to google scholar was 120. She has co-founded 3 biotech companies: Lyell Immunopharma, CARGO Therapeutics and Link Cell Therapies as well as ACCESSforKIDS, a non-profit dedicated to commercializing cell therapies for pediatric cancers.

ACADEMIC APPOINTMENTS

- Professor, Pediatrics - Hematology & Oncology
- Professor, Medicine - Blood & Marrow Transplantation
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute

ADMINISTRATIVE APPOINTMENTS

- Founding Director, Stanford Center for Cancer Cell Therapy, (2017- present)
- Director, Parker Institute for Cancer Immunotherapy at Stanford, (2016- present)
- Associate Director, Stanford Cancer Institute, (2016- present)
- Leader, Cancer Immunology and Immunotherapy Program, Stanford Cancer Institute, (2016- present)
- Director, Cancer Immunotherapy Program, Department of Pediatrics, (2016- present)

HONORS AND AWARDS

- Italian-American Cancer Foundation Prize for Excellence in Medicine the Clinical Sciences, Italian-American Cancer Foundation (2025)
- Lloyd Old Award, Cancer Research Institute/AACR (2025)
- R. Lois Murphy Award, Memorial Sloan Kettering Cancer Center (2024)
- Almanac of Women Leaders in Pediatric Oncology, International Society of Pediatric Oncology (2023)
- Edward Netter Leadership Award, Alliance for Cancer Gene Therapy (2023)
- Fellow of the Academy of Immuno-oncology, Society for the Immunotherapy of Cancer (2023)
- George Stamatoyannopoulos Award Lecture, American Society for Gene and Cell Therapy (2023)
- Pantheon Award Finalist, California Life Sciences (2023)
- Top 20 Most Influential Women in Biopharma, Endpoints News (2023)
- Fellow, Academy of the American Association for Cancer Research (2022)
- Member, National Academy of Medicine (2022)
- Nobility in Science Award, Sarcoma Foundation of American (2022)
- AACR-St. Baldrick's Foundation Award for Outstanding Achievement in Pediatric Cancer Research, American Association for Cancer Research (2021)
- AACR-Team Science Award for the Pediatric Cancer Dream Team, American Association for Cancer Research (2021)
- American Society for Clinical Oncology Pediatric Oncology Award and Lecture, American Society for Clinical Oncology (2021)
- Richard V. Smalley Award and Lectureship, Society for the Immunotherapy of Cancer (2021)
- BJ Kennedy Keynote Lecturer, Masonic Cancer Center, Minneapolis, MN (2018)
- Lila and Murray Gruber Memorial Cancer Research Award and Lectureship, American Academy of Dermatology (2018)
- Top 10 Clinical Research Award for New CAR-T Cell Therapy for Relapsed Leukemia, Top 10 Clinical Research Award (2018)
- Chair, Pediatric Cancer Working Group, American Association for Cancer Research (2017-18)

- Stephen Max Memorial Lectureship, University of Maryland (2017)
- Warren Stow Distinguished Lectureship, MD Anderson Cancer Center (2017)
- Nitschke-Kaskake Visiting Professorship, Oklahoma City Children's Hospital (2016)
- G. Burroughs Mider Lectureship, National Institutes of Health (2015)
- Member, Association of American Physicians (2015)
- William Hathaway Visiting Professor Award, University of Colorado (2015)
- Co-Leader, St.Baldrick's/StandUp2Cancer Pediatric Dream Team (2013-present)
- Alexandra Scott Lectureship in Pediatric Oncology, Children's Hospital of Philadelphia (2013)
- Director's Award, National Institutes of Health (2013)
- Great Teacher Lectureship, National Institutes of Health (2012)
- Vineberg Lectureship, Montreal Children's Hospital (2011)
- Alex Koufos Memorial Lectureship, Akron Children's Hospital (2009)
- Merit Award, National Institutes of Health (2007)
- Member, Best Doctors in America (2006-2018)
- Member, American Society for Clinical Investigation (2005)
- Distinguished Alumni Award, Northeastern Ohio Universities College of Medicine (2004)
- Commendation Medal, United States Public Health Service (2003)
- Director's Award, National Cancer Institute (2003)
- Distinguished Clinical Teacher Award, National Institutes of Health (2000)
- Member, Alpha Omega Alpha, Honorary Medical Society (1984)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Board of Directors, American Association for Cancer Research (2025 - present)
- Board of Directors, ACCESSforKIDS (2025 - present)
- President, ACCESSforKIDS (2025 - present)
- Member, Board of Directors, Link Cell Therapies (2022 - 2025)
- Member, CARGO Therapeutics, Board of Directors (2021 - 2023)
- Chair, Pediatric Cancer Working Group, American Association for Cancer Research (2017 - 2019)
- Member, Committee on Scientific Affairs, American Society of Hematology (2016 - 2017)
- Chair-Elect, Pediatric Cancer Working Group, American Association for Cancer Research (2015 - 2017)
- Chair, Program Committee on Immunology, American Association for Cancer Research (2014 - 2015)
- Member, Immunology Steering Committee, American Association for Cancer Research (2013 - 2014)
- Vice Chair and Chair, Scientific Committee on Immunology and Host Defense, American Society of Hematology (2011 - 2012)
- Advisory Board for Clinical Research, NIH Clinical Center (2008 - 2012)
- Member, DNA Advisory Committee, US Food and Drug Administration (2008 - 2008)
- Education Committee, American Society of Clinical Oncology (2006 - 2009)
- Member, NIH Central Tenure Committee (2004 - 2008)
- Member, Biologic Response Modifiers Advisory Committee, Food and Drug Administration (2002 - 2003)
- Executive Board, Federation of Clinical Immunology Societies (FOCIS) (2001 - 2002)

PROFESSIONAL EDUCATION

- MD, Northeastern Ohio Universities College of Medicine , Medicine (1984)
- BS, University of Akron , Natural Sciences (1980)

PATENTS

- Rimas Orentas, Ira Pastan, Crystal Mackall. "United States Patent 61/549,516 Anti-CD22 Chimeric Antigen Receptors, patent pending", National Cancer Institute
- Rimas Orentas, Ira Pastan, Crystal Mackall, Dimiter Dimitrov. "United States Patent 61/717,960 M971 Chimeric Antigen Receptors, patent pending", National Cancer Institute
- Dimiter Dimitrov, Rimas Orentas, Crystal Mackall. "United States Patent 61/805001 Anti-CD276 polypeptides, proteins and chimeric antigen receptors, patent pending", National Cancer Institute
- Rimas Orentas, Dimiter Dimitrov, Crystal Mackall. "United States Patent 61/900,906 ALK Antibodies, Conjugates and Chimeric Antigen Receptors, patent pending", National Cancer Institute
- Terry Fry, Haiying Qin, Crystal Mackall, Rimas Orentas. "United States Patent 62/135,442 Dual Specific Anti-CD22-Anti-CD19-Chimeric Antigen Receptors, patent pending", National Cancer Institute
- Crystal Mackall, Yongzhi Cui. "United States Patent 62/216,447 Anti-CD276 Chimeric Antigen Receptors, patent pending", National Cancer Institute
- Jay Berzofsky, Lee Helman, Crystal Mackall. "United States Patent 7,867,977 A Peptide Epitope and Improvement Thereof Inducting T Cell Immunity to Alveolar Rhabdomyosarcoma in HLA-B7 positive Individuals.", National Cancer Institute
- Hokyung Kay Chung, Michael Z Lin, Crystal Mackall, Robbie Majzner, Louai Labanieh. "United States Patent 62/694,830 Chimeric Antigen Receptor Polypeptides and Methods of Using Same", Leland Stanford Junior University, Jul 16, 2018
- Crystal L Mackall, Michelle Monje, Christopher Mount, Robbie Majzner. "United States Patent 041839 CAR T cell therapy to treat H3K27M midline gliomas", Leland Stanford Junior University, Jul 12, 2018
- Tom Wandless, Rachel Lynn, Sanjay Malhotra, Evan Weber, Crystal Mackall. "United States Patent 025394 Transiently regulated CAR-T cells engineered to prevent T-cell exhaustion and improve immunotherapy", Leland Stanford Junior University, Mar 30, 2018
- Tom Wandless, Rachel Lynn, Sanjay Malhotra, Evan Weber, Crystal Mackall. "United States Patent PCT/US2018/025459 Methods of Treating T Cell Exhaustion by Inhibiting Modulating T Cell Receptor Signaling", Leland Stanford Junior University, Mar 30, 2018
- Rachel Lynn, Evan Weber, Crystal Mackall, Elena Sotillo. "United States Patent 62/599.299 Compositions and Methods for Inhibiting T Cell Exhaustion", Leland Stanford Junior University, Dec 15, 2017
- Jay Berzofsky, Lee Helman, Crystal Mackall. "United States Patent 12/092,449 Immunogenic Peptides And Methods Of Use For Treating And Preventing Cancer", National Cancer Institute, May 2, 2008

LINKS

- Mackall Lab: https://med.stanford.edu/mackalllab.html

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

We are impressed by the potency of immune responses for the treatment of cancer and our work focuses on enhancing the effectiveness of T cell based immunotherapies for cancer. Our approach is to simultaneously conduct basic studies alongside clinical trials, leveraging an iterative bench-to-bedside-bench rotation to efficiently optimize clinically relevant cancer immunotherapies. Our laboratory, in parallel with the Center for Cancer Cell Therapy seeks to develop novel therapies for early phase testing in clinical trials, and conducts intensive studies on clinical samples obtained from patients treated on immunotherapy trials. We also seek to enhance fundamental understanding of human T cell biology.

We focus primarily on using genetically engineered T cells to treat cancer, with an emphasis on chimeric antigen receptors (CARs). CARs are non-natural receptors, created using synthetic biology, that endow T cells with the capacity for antigen-specific, MHC-unrestricted killing. Some clinical results using CAR based therapies have been impressive, but we believe that further progress will emerge as a result of focus on these three major areas:

1. T cell exhaustion, a state whereby continued T cell activation leads to diminished functionality, is a fundamental barrier limiting the efficacy of many cancer immunotherapies. Our laboratory is focused on using high dimensional, single cell analyses to better define human T cell exhaustion and to enhance understanding of the biological mechanisms responsible for this phenomenon. We believe that enhanced biological understanding of T cell exhaustion will delivery novel approaches to prevent or reverse this phenomenon in the context of cancer immunotherapy.

2. Effective immunotherapies require a therapeutic window whereby immune cell preferentially or exclusively attack the neoplastic cell while sparing non-neoplastic, vital tissues. Our laboratory is focused on identifying novel targets for T cell based immunotherapies and on enhancing understanding of the quantitative thresholds for antigen recognition of these novel therapeutics. Armed with this understanding, we seek to tune CAR T cells to differential antigen thresholds to enable safe recognition orfcancer cells while sparing normal tissues. We are also interested in using novel approaches for combinatorial recognition, both to diminish the risk for tumor escape due to loss of antigen expression, and to allow targeting of tumor antigens that pose a risk due to co-expression on healthy, vital tissues.

3. The tumor microenvironment is potently immunosuppressive and can prevent antigen specific immune responses from effectively mediating antitumor effects. Our laboratory focuses on enhancing understanding of the immunosuppressive tumor microenvironment and on developing novel approaches to diminish the ability of the tumor microenvironment to limit the efficacy of T cell based immunotherapies.

CLINICAL TRIALS

- GD2 CAR T Cells in Diffuse Intrinsic Pontine Gliomas(DIPG) & Spinal Diffuse Midline Glioma(DMG), Recruiting
- GPC2-CAR T Cell Therapy for Relapsed or Refractory Medulloblastoma in Children and Young Adults, Recruiting
- SPEARHEAD-3 Pediatric Study, Recruiting
- Autologous CD22 CAR T Cells in Adults w/ Recurrent or Refractory B Cell Malignancies, Not Recruiting
- Axicabtagene Ciloleucel Expanded Access Study, Not Recruiting
- CD19/CD22 Chimeric Antigen Receptor (CAR) T Cells With or Without NKTR-255 in Adults With Recurrent or Refractory B Cell Malignancies, Not Recruiting
- CD22-CAR T Cells in Children and Young Adults With B Cell Malignancies, Not Recruiting
- Enoblituzumab (MGA271) in Children With B7-H3-expressing Solid Tumors, Not Recruiting
- Nivolumab With or Without Ipilimumab in Treating Younger Patients With Recurrent or Refractory Solid Tumors or Sarcomas, Not Recruiting
- Screening Protocol for Tumor Antigen Expression Profiling and HLA Typing for Eligibility Determination, Not Recruiting
- Study of bb2121 in Multiple Myeloma, Not Recruiting
- Study of CD19/CD22 Chimeric Antigen Receptor (CAR) T Cells in Children and Young Adults w/ Recurrent or Refractory B Cell Malignancies, Not Recruiting
- A Pilot Study of Genetically Engineered NY-ESO-1 Specific NY-ESO-1$^{c^2}$##T in HLA-A2+ Patients With Synovial Sarcoma, Not Specified

Teaching

STANFORD ADVISEES

Med Scholar Project Advisor

Sebastian Kenny, William Wang

Doctoral Dissertation Reader (AC)

Lehi Acosta-Alvarez, Emma Heaton, Timothy Keyes, Jaclyn Ng, Nick Phillips

Postdoctoral Faculty Sponsor

Dehua Bi, Jeremy Bjelajac, Adria Canellas Socias, Yiyun Chen, Akram Hamed, Diren Usta, Bronte Manouk Verhoeven

Doctoral Dissertation Advisor (AC)

Kylie Burdsall, Audre May

Postdoctoral Research Mentor

Alexander Salter

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Immunology (PhD Program)
- Pediatric Hem/Onc (Fellowship Program)

Publications

PUBLICATIONS

- **Peripheral Blasts at Apheresis as a Risk Factor for Survival following Tisagenlecleucel in Children and Young Adults.** *Blood advances*
  Utley Lyons, K., Miller, K., Deb, A., Nicklawsky, A., Baggott, C., Nguyen, K., Prabhu, S., Pacenta, H. L., Phillips, C. L., Rossoff, J., Stefanski, H. E., Talano, J. M., Moskop, et al
  2026
- **Synthetic transcription factors designed by domain recombination enhance CAR T cell antitumor function.** *Cell*
  Takacsi-Nagy, O., Kasinathan, S., Hartman, A., Yin, Y., Wu, L., Chen, A. Y., Moser, L. M., May, A. P., Reeder, G. C., Celallos Fuentes, E., Kernick, C., Lu, J., McClellan, et al
  2026
- **HLH-like syndromes associate with increased risk of death and CD19-negative relapse post-CAR T in pediatric B-ALL.** *Blood advances*
  McNerney, K. O., Kwon, S., Naik, S., Fabrizio, V. A., Llaurador Caraballo, G., Sanchez-Pinto, L. N., Talleur, A. C., Zeng, X. L., Baggott, C., Vatsayan, A., Verneris, M. R., Prabhu, S., Rossoff, et al
  2026
- **Anti-CAR Immunity Drives Acquired Therapeutic Resistance to GD2-CAR T Cell Therapy in Diffuse Midline Glioma.** *medRxiv : the preprint server for health sciences*
  Chen, Y., Reynolds, K., Koch, M. R., Petrakian, C. F., Good, Z., Yamada-Hunter, S., Sotillo, E., Song, K. W., Mahdi, J., Majzner, R., Desai, M. H., Huang, Y. W., Daghagh, et al
  2026
- **Rapid Peak Cilta-cel Expansion is Associated with Delayed Neurotoxicity in Multiple Myeloma.** *Blood*
  Hosoya, H., Velayati, A., Dima, D., Jensen, A., Portuguese, A. J., Hovanky, V., Mikkilineni, L., Peres, L. C., Grajales-Cruz, A. F., Homsy, S., Rana, M. S., Cancilla, J., Patil, et al
  2026
- **CD33-CAR INKT CELLS MITIGATE THE IMPACT OF ANTIGENIC HETEROGENEITY IN ACUTE MYELOID LEUKEMIA THROUGH DIRECT CYTOTOXICITY AND ACTIVATION OF CONVENTIONAL T CELLS**
  Wang, S., Zhou, G., Richards, R., Yan, H., Beerlage, A., Gomez-Cadena, A., Longval, T., Bernardi, C., Pradier, A., Fiordi, B., Boonchalermvichian, C., Melotti, A., Younes, et al
  SPRINGERNATURE.2026: 214
- **Cell Cycle Sensing Shapes Human T Cell Fate and Exhaustion Programs.** *bioRxiv : the preprint server for biology*
  Amouzgar, M., Murty, T., Favaro, P., Sotillo, E., Bruce, T., Ho, D., Lam, A. J., Tibshirani, R., Mackall, C. L., Bendall, S. C.
  2026
- **Cell-autonomous control of CAR signaling and receptor shedding via ADAM17-mediated proteolysis.** *Cell*
  Bjelajac, J. R., Cañellas-Socias, A., Nehra, P., Reynolds, K., Malipatlolla, M., Martinez Velez, N., Manjarrez, D. C., Ho, K., Xu, P., Hamad, J. L., Yamada-Hunter, S. A., Labanieh, L., Sotillo, et al
  2026
- **Brexu-cel plus dasatinib: Safety and feasibility of dasatinib pulses after brexucabtagene autoleucel to modulate CAR T cell activity in relapsed/refractory B cell acute lymphoblastic leukemia**
  Jeyakumar, N., Shiraz, P., Weber, E., Kanegai, A., Wagner, C., Ramakrishnan, A., Sahaf, B., Frank, M., Dahiya, S., Smith, M., Sidana, S., Mackall, C., Miklos, et al

AMER ASSOC CANCER RESEARCH.2026

- **B7H3 CAR T cell therapy across immunocompetent ovarian cancer models with evidence of transferable anti-tumor immunity**
  Pham, T., Allen, E., Tallapragada, S., Chan, J., Velez, N., Sotillo, E., Mackall, C. L., Dorigo, O.
  AMER ASSOC CANCER RESEARCH.2026
- **Dynamics of BCMA expression in patients with relapsed/refractory multiple myeloma receiving BCMA-directed CAR-T therapy.** *Blood cancer journal*
  Rana, M. S., Fernandez-Pol, S., Jensen, A., Hovanky, V., Velayati, A., Oak, J. S., Silva, O., Ames, E., Muffly, L. S., Sahaf, B., Arai, S., Kennedy, V. E., Bharadwaj, et al
  2026
- **Longitudinal single-cell atlas of GD2-CAR T cell therapy in H3K27M-mutant diffuse midline glioma identifies humoral and cellular anti-CAR immunity**
  Chen, Y., Song, K., Desai, M. H., Huang, Y., Iswari, N., Ehlinger, Z. J., Daghagh, H., Koch, M. R., Reynolds, K., Mo, K. C., Tsui, K. C., Rietberg, S., Hamilton, et al
  AMER ASSOC CANCER RESEARCH.2026
- **Decoding the medulloblastoma surfaceome prioritizes the oncofetal antigen GPC2 for potent CAR-T cell therapy**
  Usta, D., Gwynne, W., Suk, Y., Chen, Y., Radosevich, M. T., Chernova, D., Feng, Y., Nasajpour, E., Trissal, M., Poetschke, R., Delaidelli, A., Dunham, C., Labanieh, et al
  AMER ASSOC CANCER RESEARCH.2026
- **Surface localized nuclear envelope proteins define a therapeuticvulnerability in MYC-driven Group 3 medulloblastoma**
  Singh, S., Suk, Y., Rossotti, M. A., Ibanez-Vega, J., Shaikh, M., Chen, Y., Patel, H., Escudero, L., Delaidelli, A., Khanna, A., Slassi, S., Bazan, C., Apel, et al
  AMER ASSOC CANCER RESEARCH.2026
- **IL-18 secreting CAR-T cells uncover divergent immune mechanisms of antigen-heterogeneous solid tumor clearance.**
  May, A., Sotillo, E., Xu, P., Malhotra, A., Ho, K., Mackall, C.
  AMER ASSOC CANCER RESEARCH.2026: 1351
- **Efficacy of nuclear envelope protein targeting CAR T cell therapy for MYC driven group 3 medulloblastoma**
  Suk, Y., Ibanez-Vega, J., Rossotti, M., Shaikh, V., Chen, Y., Patel, H., Escudero, L., Delaidelli, A., Slassi, S., Bazan, C. B., Khanna, A., Sokeechand, S., Apel, et al
  AMER ASSOC CANCER RESEARCH.2026: A032
- **Predictive biomarkers of response to chimeric antigen receptor (CAR) T-cell therapy for pan-haematologic cancer.** *Nature biomedical engineering*
  Chen, G. M., Jain, A., Gering, D. T., Satulovsky, J., Datta, S., Lai, P., Karar, J., Gonzalez, V. E., Alexander, K., Chew, A., Jadlowsky, J. K., Ruella, M., Paruzzo, et al
  2026
- **Dynamic, single-cell monitoring of CAR T cell identity and activation with Raman spectroscopy.** *bioRxiv : the preprint server for biology*
  Stiber, A., Quach, B., Ogunlade, B., Georgiadis, A., Chang, K., Li, Y., Quinn, P., Wang, H., Tsui, K. C., Ang, C., Sotillo, E., Mackall, C., Good, et al
  2026
- **Programmable JAK/STAT signaling drives CAR T cells to enhanced functional states**
  Cho, W., Liu, J. Y., Beckett, A. N., Craig, E., Brademan, D. R., Lunger, J. C., Xu, P., Ho, K., Chen, E. E., Salcido-Alcantar, A., Sant'anna, L. E., Obbad, K., Po, et al
  AMER ASSOC CANCER RESEARCH.2026
- **Patient Characteristics, Toxicity, and Response after Real World Administration of Obecabtagene Autoleucel and Brexucabtagene Autoleucel for Relapsed Acute Lymphoblastic Leukemia: A Rocca Analysis**
  Molina, A., Shiraz, P., Kanegai, A., Fraser, A., Kordek, D., Wagner, C., Danley, L., Ramakrishnan, A., Daghagh, H., Huang, Y., Dhapola, G., Siddiqui, A., Arai, et al
  ELSEVIER SCIENCE INC.2026: S27
- **Validation of a Pre-Infusion Prediction Model for IEC-HS in Children and Young Adults with B-Acute Lymphoblastic Leukemia**
  McNerney, K. O., Kwon, S., Naik, S., Fabrizio, V. A., Llaurador, G., Sanchez-Pinto, L., Talleur, A. C., Zeng, X., Baggott, C., Vatsayan, A., Verneris, M. R., Prabhu, S., Rossoff, et al
  ELSEVIER SCIENCE INC.2026

- **c-JUN enhances CRISPR knockin anti-B7-H3 CAR T cell function in small cell lung cancer and thoracic SMARCA4-deficient undifferentiated tumors.** *Cell reports. Medicine*
  Balke-Want, H., Keerthi, V., Del Carmen Arenas, M., Chen, Y., Malipatlolla, M., Klysz, D. D., Xu, P., Ho, K., Asano, K., Stahl, D., Huang, J., Retherford, A., Patel, et al
  2026; 7 (1): 102549
- **CAR T cells: the missing piece needed to improve outcomes for children with cancer?** *Journal for immunotherapy of cancer*
  Mackall, C.
  2026; 14 (1)
- **Clinical and Cytokine Features of Immune Effector Cell-Associated Hemophagocytic Lymphohistiocytosis-Like Syndrome.** *Blood cancer discovery*
  Srinagesh, H. K., Kramer, A. M., Baird, J. H., Reschke, A., Sahaf, B., Cancilla, J., Syal, S., Su, Y. J., Agarwal, N., Jensen, A. M., Schultz, L. M., Jeyakumar, N., Ramakrishna, et al
  2025
- **Sequential CD19 and CD22 CART for relapsed and refractory B cell ALL: Phase I results**
  Schultz, L., Aftandilian, C., Baggott, C., Corwin, N., Fujimoto, M., Li, A., Mavroukakis, S., Moon, J., Sahaf, B., Jacobs, A., Mendoza, C., Levenson, A., Frank, et al
  ELSEVIER.2025: 2374
- **CD22-CAR T cell multiomic features linked to patient outcomes in CD19-CAR resistant large B cell lymphoma**
  Kramer, A., Murty, T., Chen, Y., Rodrigues, K., Hamilton, M., Desai, M., Kuo, A., Ehlinger, Z., Reynolds, W., Srinagesh, H., Tsui, K., Rietberg, S., Mo, et al
  ELSEVIER.2025: 566-567
- **Double-dose axicabtagene ciloleucel (Axi-Cel-2) as second-line therapy for high-risk relapsed or refractory large B-cell lymphoma (r/rLBCL): Interim results from a Phase 1b study**
  Lee, D., Rodrigues, K., Rana, M., Kozy, K., Salazar, S., Jensen, A., Desai, M., Mallampet, J., Lohman, C., Huang, Y., Kang, X., Tian, F., Mutter, et al
  ELSEVIER.2025: 671-672
- **Pre-CAR next generation sequencing informs patient outcomes in children and young adults with B-acute lymphoblastic leukemia**
  Hamidi, R., Zhang, A., Handwerker, M., Bhatt, D., Davis, K., Ramakrishna, S., Aftandilian, C., Moon, J., Jacobs, A., DeYager, E., Erickson, C., Madhav, D., Dagher, et al
  ELSEVIER.2025: 550-551
- **Pre-treatment CDI9 antigen density and multi-antigen profiling by calibrated quantitative flow cytometry correlates with CAR T efficacy in LBCL**
  Spiegel, J., Oak, J., Rana, M., Jensen, A., Lee, D., Nguyen-Mau, S., Kong, K., Bornheimer, S., Mikkilineni, L., Muffly, L., Sidana, S., Weng, W., Bharadwaj, et al
  ELSEVIER.2025: 5882-5883
- **Enabling access to genetically modified cell therapies through flexible approaches to manufacturing and cost recovery.** *Journal for immunotherapy of cancer*
  Stewart, M. D., Cabanski, C. R., Allen, J. D., Connolly, J. E., Beneski, B. M., Dropulić, B., Feldman, S. A., Fleisher, L. A., Hanley, P. J., Hege, K., Kekre, N., Fernandez Lynch, H., Mackall, et al
  2025; 13 (12)
- **Long-term Follow-up of Gastrointestinal CAR T-cell Lymphoma: Homing, Clonal Expansion, and Response to Cyclosporine.** *Blood*
  Hosoya, H., Bastidas Torres, A. N., Fernandez-Pol, S., Gubatan, J. M., Najidh, S., Duran, G. E., Dong, F., Ehlinger, Z., Lohman, C., Wright, C., Sahaf, B., Mackall, C. L., Miklos, et al
  2025
- **CD22-directed CAR-T cells induce complete remissions in high-risk follicular and Mantle Cell Lymphoma with limited neurotoxicity**
  Srinagesh, H., Kramer, A., Hamilton, M., Su, Y., Kozy, K., Jackson, L., Brown, A., Denoble, K., Mavroukakis, S., Lohman, C., Cunanan, K., Agarwal, N., Bharadwaj, et al
  ELSEVIER.2025: 4159-4160
- **Redefining post-CD19 CAR T-cell surveillance with ctdna: Real-world insights from post- axi-cel and liso-cel therapy**
  Ananth, S., Mallampet, J., Chang, B., Agarwal, N., Kong, K., Sahaf, B., Serrato, J., Kirsch, I., Jacob, A., Simmons, H., Lee, L., Mackall, C., Weng, et al

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- **Overlap of post-CAR T HLH toxicity definitions and their prognostic significance in children and young adults with B-acute lymphoblastic leukemia**
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