Stanford

Adrienne H. Long, MD, PhD

Instructor, Pediatrics - Hematology & Oncology

CLINICAL OFFICE (PRIMARY)

- **Pediatric Hematology and Oncology**

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Bio

BIO

Adrienne H. Long, MD, PhD is an Instructor and Physician-Scientist in the Division of Pediatric Hematology and Oncology at the Lucile Packard Children's Hospital, Stanford. Clinically, she completed her MD at Northwestern University, her pediatrics residency at Boston Children's Hospital, and her oncology fellowship training at Stanford University. Dr. Long sees patients with leukemias/lymphomas, and has a clinical interest in T cell malignancies.

Dr. Long received her PhD in Microbiology/Immunology through a National Institutes of Health (NIH) – Northwestern University partnership, where she worked with Dr. Crystall Mackall to advance CAR T cell therapies. Her influential thesis work was the first to identify T cell exhaustion as a critical factor limiting efficacy of CAR therapies (Long et al., Nature Medicine, 2015). She continued her research training with Dr. Nicholas Haining at the Dana Farber Cancer Institute during residency and is currently conducting her post-doctoral research with Dr. Mark Davis at Stanford.

Dr. Long's research interests lie at the intersection of the immune system and cancer therapies. She is currently studying how thymic selection, designed to prevent auto-immunity, may also inhibit anti-tumor immunity in children. She is also interested in how immunotherapies that have revolutionized how we treat cancer can impact the developing pediatric immune system long term.

CLINICAL FOCUS

- Cancer Immunology and Immunotherapy
- Pediatric Hematology-Oncology

ACADEMIC APPOINTMENTS

- Instructor, Pediatrics - Hematology & Oncology
- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- Young Investigator Award, Hyundai Hope on Wheels (2023)
- Young Investigator Award in Translational Cancer Research, American Association for Cancer Research - American Society of Clinical Oncology (2022)
- Physician Scientist Fellow, Doris Duke Charitable Foundation (2021)
- Anne T. and Robert M. Bass Endowed Fellow, Stanford Maternal and Child Health Research Institute (2020)
- Fredrick H. Lovejoy, Jr. Award, Boston Children's Hospital (2019)
- Member, Alpha Omega Alpha Honor Medical Society (2015)
- Scholar-in-Training Award, American Association for Cancer Research (2015)
- Women in Cancer Research Award, American Association for Cancer Research (2014)
- Fellows Award for Research Excellence, National Institutes of Health (2013)
- Cloister Research Scholar, Howard Hughes Medical Institute - National Institutes of Health (2011)

PROFESSIONAL EDUCATION

- Board Certification: Pediatric Hematology-Oncology, American Board of Pediatrics (2023)
- Fellowship: Stanford University Pediatric Hematology Oncology Fellowship (2022) CA
- Board Certification: Pediatrics, American Board of Pediatrics (2020)
- Residency: Boston Childrens Hospital Pediatric Residency (2019) MA
- Medical Education: Northwestern University Feinberg School of Medicine (2016) IL
- PhD, National Institutes of Health , Cancer Immunology (2015)
- BS, Northwestern University , Biomedical Engineering (2008)

Publications

PUBLICATIONS

- **4-1BB costimulation ameliorates T cell exhaustion induced by tonic signaling of chimeric antigen receptors** *NATURE MEDICINE*
  Long, A. H., Haso, W. M., Shern, J. F., Wanhainen, K. M., Murgai, M., Ingaramo, M., Smith, J. P., Walker, A. J., Kohler, M. E., Venkateshwara, V. R., Kaplan, R. N., Patterson, G. H., Fry, et al
  2015; 21 (6): 581-590

- **Aging restricts maturation of CXCL13+ T follicular helper cells in human immunity.** *Cell reports*
  Bracey, N. A., Beppler, C., Bilich, T., Long, A. H., Sola, E., Barak, A., Few-Cooper, T. J., Mohsin, A., Shankar, V., Mallajosyula, V., Kamalyan, L., Capasso, R., Shen-Orr, et al
  2026; 45 (6): 117423

- **Integrating thymic expression patterns into tumor antigen selection enhances immunotherapy design and stratifies clinical responses to immunotherapies**
  Long, A., Tooker, K., Pathoulas, N., Beppler, C., Bilich, T., Bracey, N., Davis, M.
  ELSEVIER.2025: 626-627

- **The immune microenvironment of transplant glomerulitis** *Kidney International Reports*
  Bracey, N., Maltzman, J., Long, A., Dhanasekaran, R., Shankar, V., Mohsin, A., Kambham, N., Wernig, G., Gentles, A., Davis, M., Charu, V.
  2025: 3113-3127

- **Hypogammaglobulinemia in Children Receiving Targeted Immunotherapies for B Lineage Malignancies: Practical Guidance for Assessment and Management.** *Pediatric blood & cancer*
  Long, A. H., Aftandilian, C., Barmettler, S., Alexander, S.
  2025: e31779

- **COVID-19 Vaccine Response in Pediatric Oncology Patients.** *Pediatric blood & cancer*

Kam, B., Wang, Y., Qin, F., Long, A. H., Klein, O. R., Aftandilian, C.
2025: e31572

- **Targeting the aminopeptidase ERAP enhances antitumor immunity by disrupting the NKG2A-HLA-E inhibitory checkpoint.** *Immunity*
  Tsao, H. W., Anderson, S., Finn, K. J., Perera, J. J., Pass, L. F., Schneider, E. M., Jiang, A., Fetterman, R., Chuong, C. L., Kozuma, K., Stickler, M. M., Creixell, M., Klaeger, et al
  2024

- **Development of clinical pathways to improve multidisciplinary care of high-risk pediatric oncology patients.** *Frontiers in oncology*
  Reschke, A., Richards, R. M., Smith, S. M., Long, A. H., Marks, L. J., Schultz, L., Kamens, J. L., Aftandilian, C., Davis, K. L., Gruber, T., Sakamoto, K. M.
  2022; 12: 1033993

- **Checkpoint Immunotherapy in Pediatrics: Here, Gone, and Back Again.** *American Society of Clinical Oncology educational book. American Society of Clinical Oncology. Annual Meeting*
  Long, A. H., Morgenstern, D. A., Leruste, A., Bourdeaut, F., Davis, K. L.
  2022; 42: 1-14

- **Delayed cancer diagnoses and high mortality in children during the COVID-19 pandemic.** *Pediatric blood & cancer*
  Ding, Y., Ramakrishna, S., Long, A. H., Phillips, C. A., Montiel-Esparza, R., Diorio, C. J., Bailey, L. C., Maude, S. L., Aplenc, R., Batra, V., Reilly, A. F., Rheingold, S. R., Lacayo, et al
  2020: e28427

- **Loss of ADAR1 in tumours overcomes resistance to immune checkpoint blockade.** *Nature*
  Ishizuka, J. J., Manguso, R. T., Cheruiyot, C. K., Bi, K. n., Panda, A. n., Iracheta-Vellve, A. n., Miller, B. C., Du, P. P., Yates, K. B., Dubrot, J. n., Buchumenski, I. n., Comstock, D. E., Brown, et al
  2019; 565 (7737): 43–48

- **Hypotonia and Lethargy in a Two-Day-Old Male Infant.** *Pediatrics*
  Long, A. H., Fiore, J. G., Gillani, R. n., Douglass, L. M., Fujii, A. M., Hoffman, J. D.
  2019; 144 (1)

- **Tumor Antigen and Receptor Densities Regulate Efficacy of a Chimeric Antigen Receptor Targeting Anaplastic Lymphoma Kinase.** *Molecular therapy : the journal of the American Society of Gene Therapy*
  Walker, A. J., Majzner, R. G., Zhang, L. n., Wanhainen, K. n., Long, A. H., Nguyen, S. M., Lopomo, P. n., Vigny, M. n., Fry, T. J., Orentas, R. J., Mackall, C. L.
  2017

- **Reduction of MDSCs with All-trans Retinoic Acid Improves CAR Therapy Efficacy for Sarcomas** *CANCER IMMUNOLOGY RESEARCH*
  Long, A. H., Highfill, S. L., Cui, Y., Smith, J. P., Walker, A. J., Ramakrishna, S., El-Etriby, R., Galli, S., Tsokos, M. G., Orentas, R. J., Mackall, C. L.
  2016; 4 (10): 869-880

- **Chimeric Antigen Receptors for Cancer: Progress and Challenges** *CURRENT STEM CELL REPORTS*
  Long, A. H., Lee, D. W., Mackall, C. L.
  2015; 1 (4): 187-196

- **Comparison against 186 canid whole-genome sequences reveals survival strategies of an ancient clonally transmissible canine tumor** *GENOME RESEARCH*
  Decker, B., Davis, B. W., Rimbault, M., Long, A. H., Karlins, E., Jagannathan, V., Reiman, R., Parker, H. G., Droegemueller, C., Corneveaux, J. J., Chapman, E. S., Trent, J. M., Leeb, et al
  2015; 25 (11): 1646–55

- **4-1BB costimulation ameliorates exhaustion and prolongs in vivo persistence of chimeric antigen receptor (CAR) expressing T cells**
  Long, A. H., Haso, W. M., Smith, J. P., Walker, A. J., Fry, T. J., Orentas, R. J., Mackall, C. L.
  AMER ASSOC CANCER RESEARCH.2015

- **14g2a-based GD2-specific chimeric antigen receptors (CARs) constitutively signal, leading to rapidly induced T-cell exhaustion and poor antitumor efficacy in vivo**
  Long, A., Orentas, R. J., Mackall, C. L.
  AMER ASSOC CANCER RESEARCH.2014

- **Synthetic Chimeric Antigen Receptors (CARs) Rapidly Induce Exhaustion and Augmented Glycolytic Metabolism In Human T Cells and Implicate Persistent CD28 Signaling As a Driver Of Exhaustion In Human T Cells**
  Long, A. H., Orentas, R. J., Mackall, C. L.
  AMER SOC HEMATOLOGY.2013

- **Evaluating the susceptibility of solid tumors to chimeric antigen receptor modified T cell therapies**
  Long, A. H., Highfill, S. L., Haso, W. M., Orentas, R. J., Mackall, C. L.
  AMER ASSOC CANCER RESEARCH.2013

- **Lessons learned from a highly-active CD22-specific chimeric antigen receptor.** *Oncoimmunology*
  Long, A. H., Haso, W. M., Orentas, R. J.
  2013; 2 (4): e23621

- **Evaluating the Susceptibility of Solid Tumors to Chimeric Antigen Receptor Modified T Cell Therapies**
  Long, A. H., Haso, W., Lee, D., Highfill, S., Orentas, R., Mackall, C.
  LIPPINCOTT WILLIAMS & WILKINS.2012: 726

- **Triggered release of therapeutic antibodies from nanodiamond complexes** *NANOSCALE*
  Smith, A. H., Robinson, E. M., Zhang, X., Chow, E. K., Lin, Y., Osawa, E., Xi, J., Ho, D.
  2011; 3 (7): 2844–48

- **Improved methods and standards for telomerase detection: quantitative histopathology using antibody staining** *BIOTECHNIC & HISTOCHEMISTRY*
  Jakupciak, J. P., Gallant, N. D., Smith, A. H., Becker, M. L., Tona, A., Atha, D. H.
  2009; 84 (5): 195–206

- **Properties of ceramics in the system ZrB2-Ta5Si3** *JOURNAL OF MATERIALS RESEARCH*
  Talmy, I. G., Zaykoski, J. A., Opeka, M. M., Smith, A. H.
  2006; 21 (10): 2593–99

PRESENTATIONS

- Inhibition of signal peptide peptidase triggers novel antigen presentation on non-classical MHC and sensitizes tumors to checkpoint blockade - Keystone Symposia - Cancer Immunotherapy: Mechanistic Insights to Improve Clinical Benefit (2019)
- 4-1BB costimulation ameliorates exhaustion and prolongs in vivo persistence of chimeric antigen receptor (CAR) expressing T cells - American Association for Cancer Research Annual Meeting (2015)
- 14g2a based GD2 specific chimeric antigen receptors constitutively signal, leading to rapidly induced T cell exhaustion and poor anti-tumor efficacy in vivo - American Association for Cancer Research Annual Meeting (2014)
- Synthetic chimeric antigen receptors (CARs) rapidly induce exhaustion and augmented glycolytic metabolism in human T cells - American Society of Hematology Annual Meeting (2013)