

Name	Paulina Velasquez, MD
Current Position & Affiliation	Associate Member, St. Jude Children's Research Hospital
Country	USA
Major Field	Pediatric Bone Marrow Transplantation and Cellular Therapy

Educational Background

Paulina Velasquez, MD, is an Associate Member in the Department of Bone Marrow Transplantation and Cell Therapy at St. Jude Children's Research Hospital, which she joined in 2017. Dr. Velasquez earned her MD from Universidad Francisco Marroquín in Guatemala, followed by training in Pediatrics and Pediatric Hematology/Oncology at Baylor College of Medicine.

A physician-scientist, Dr. Velasquez has made significant contributions to cellular immunotherapy for pediatric malignancies. Including designing a novel CAR targeting GRP78, an antigen broadly expressed across leukemias, solid tumors, and brain tumors; development of peptide-scFv CAR T cells and development of a CD7-negative CAR T-cell product for T-ALL with upcoming clinical translation.

She currently spearheads BMTCT's preclinical development of cellular therapies for leukemias, with a focus on antigen discovery and improving T cell efficacy. She serves as co-principal investigator for clinical trials of CD123-specific CAR T cell therapy in relapsed/refractory AML.

Professional Experience

2024-present	Associate Member, Department of Bone Marrow Transplantation and Cellular Therapy, St. Jude Children's Research Hospital
2017-2024	Assistant Member, Department of Bone Marrow Transplantation and Cellular Therapy, St. Jude Children's Research Hospital
2015-2017	Assistant Professor, Pediatric Hematology/Oncology, Baylor College of Medicine
2014-2015	Instructor, Pediatric Hematology/Oncology, Baylor College of Medicine
2013-2014	Chief Fellow, Pediatric Hematology/Oncology, Baylor College of Medicine
2011-2014	Fellow, Pediatric Hematology/Oncology, Baylor College of Medicine
2008-2011.	Resident, Pediatrics, Baylor College of Medicine

Other Experience and Professional Memberships

Scientific Appointments

2020-2024	Member, American Society of Hematology Scientific Committee on Immunology and Host Defense
2014-2020	Member, American Society of Pediatric Hematology Oncology Practice Committee
2015- 2017	Co-Chair, Texas Children's Diversity Council Mentorship Committee
2014-2017	Member, American Society of Pediatric Hematology Oncology Early Career Council
2014- 2017	Faculty, Reflective Practice and Leadership Seminar, Texas Children's Cancer

	Center
2014- 2017	Member, Cell and Gene Therapy Group Protocol Review Committee
2014- 2017	Member, Texas Children's Cancer Center Lymphoma Team
2011-2014	Member, Texas Children's Cancer Center Education Committee
2017- present	Rally! Foundation Medical Advisory Board
2016- present	St Baldrick's Foundation Fellowship Grant Reviewer
2019	Leukemia Lymphoma Society TRP Study Section Ad hoc reviewer
Present	Member, American Society of Hematology (ASH)
Present	Member, American Society for Transplantation and Cellular Therapy (ASTCT, formerly American Society for Bone and Marrow Transplantation (ASBMT))
Present	American Society of Gene and Cell Therapy (ASGCT)
Present	Member, Children's Oncology Group (COG)

Honors

2025	Hyundai Hope on Wheels-Hope Scholar
2024	Elected to the Society of Pediatric Research (SPR)
2023	V Foundation Translational Scholar
2019	St. Baldrick's Scholar
2017	2017, Selected as Participant/Presenter at the 3rd Annual Immuno-Oncology Young Investigators' Forum (IOYIF)
2016	Selected as 2016 Translational Research in Hematology (TRTH) participant
2015,	Selected as Host Institutional Scholar of the ISCT-ASBMT Cell Therapy Training Course
2013-2014	Hematology/Oncology Chief Fellow
2011	Neonatology Chief Resident
2006	Medical Degree Cum Laude at UFM
2002	Baccalaureatum Scientiae in Medicine Cum Laude at UFM
1999-2006	Honor Roll Student, Francisco Marroquín University (UFM)

Main Scientific Publications

Hebbar N, Epperly RE, Vaidya A, Thanekar U, Moore SE, Umeda M, Ma J, Patil SL., Langfitt D, Huang S, Cheng C, Klco J, Gottschalk S, **Velasquez MP**. CAR T cells redirected to cell surface GRP78 display robust anti-acute myeloid leukemia activity and do not target hematopoietic progenitor cells. *Nat Commun.* 2022 Jan 31;13(1):587. doi: 10.1038/s41467-022-28243-6. PMID: 35102167.

Freiwan A, Zoine JT, Crawford JC, Vaidya A, Schattgen SA, Myers JA, Patil SL, Khanlari M, Inaba H, Klco JM, Mullighan CG, Krenciute G, Chockley PJ, Naik S, Langfitt DM, Mamonkin M, Obeng EA, Thomas PG, Gottschalk S, Velasquez MP. Engineering naturally occurring CD7- T cells for the immunotherapy of hematological malignancies. *Blood.* 2022 Dec 22;140(25):2684



Ibanez J, Hebbar N, Thanekar U, Yi Z, Houke H, Ward M, Nevitt C, Tian L, Mack SC, Sheppard H, Chiang J, **Velasquez MP***, Krenciute G*. GRP78-CAR T cell effector function against solid and brain tumors is controlled by GRP78 expression on T cells. *Cell Reports Medicine*. 2023 Nov 21;4(11):101297. doi: 10.1016/j.xcrm.2023.101297. PMID: 37992682.

Zoine JT, Immadisetty K, Ibanez-Vega J, Moore SE, Nevitt C, Thanekar U, Tian L, Karouni A, Chockley PJ, Arthur B, Sheppard H, Klco JM, Langfitt DM, Krenciute G, Gottschalk S, Babu MM, **Velasquez MP***. Peptide-scFv antigen recognition domains effectively confer CAR T cell multiantigen specificity. *Cell Rep Med*. 2024 Feb 20;5(2):101422. doi: 10.1016/j.xcrm.2024.101422. Epub 2024 Feb 12. PMID: 38350450; PMCID: PMC10897625.

Riberdy JM, Zhou S, Zheng F, Kim YI, Moore J, Vaidya A, Throm RE, Sykes A, Sahr N, Bonifant CL, Ryu B, Gottschalk S, **Velasquez MP**. The Art and Science of Selecting a CD123-Specific Chimeric Antigen Receptor for Clinical Testing. *Mol Ther Methods Clin Dev*. 2020 Sep 11;18:571-581. doi:10.1016/j.omtm.2020.06.024. PMID: 32775492; PMCID: PMC7393323.

Velasquez MP, Torres D, Iwahori K, Kakarla S, Arber C, Rodriguez-Cruz T, Szoor A, Bonifant CL, Gerken C, Cooper LJ, Song XT, Gottschalk S. T cells expressing CD19-specific Engager Molecules for the Immunotherapy of CD19-positive Malignancies. *Sci Rep*. 2016 Jun 3;6:27130. doi: 10.1038/srep27130. PubMed PMID: 27255991; PubMed Central PMCID: PMC4891739.

Bonifant CL, Szoor A, Torres D, Joseph N, **Velasquez MP**, Iwahori K, Gaikwad A, Nguyen P, Arber C, Song XT, Redell M, Gottschalk S. CD123-Engager T Cells as a Novel Immunotherapeutic for Acute Myeloid Leukemia. *Mol Ther*. 2016 Jul 12. doi: 10.1038/mt.2016.116. PubMed PMID: 27401038; Pub Med Central PMCID: PMC5113097.

Velasquez MP, Szoor A, Vaidya A, Thakkar A, Nguyen P, Wu MF, Liu H, Gottschalk S. CD28 and 41BB costimulation enhances the effector function of CD19-specific engager T cells. *Cancer Immunol Res*. 2017 Oct;5(10):860-870. doi: 10.1158/2326-6066.CIR-17-0171.. PubMed PMID: 28821531. PMCID: PMC5626647.

Vaidya A, Doherty E, Wu X, Huang S, Hebbar N, Thanekar U, Bonifant CL, Cheng C, Gottschalk S, **Velasquez MP**. Improving the anti-acute myeloid leukemia activity of CD123-specific Engager T cells by MyD88 and CD40 costimulation. *Haematologica* 2022. E-pub July 28 2022. <https://doi.org/10.3324/haematol.2021.279301>