

TERESA PALOMERO, PHD

Professor of Pathology & Cell Biology

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SUMMARY

Cancer biologist with over two decades of experience in elucidating the molecular mechanisms of transformation in T-cell malignancies. Renowned for pioneering work in identifying genetic drivers of Peripheral T-cell Lymphoma (PTCL) and developing preclinical models that have informed targeted therapeutic strategies.

AREAS OF EXPERTISE

T-cell Lymphoma & Leukemia Pathogenesis | Translational Research | Oncology | Cancer Genomics & Epigenetics Target Discovery & Validation | Genetically Engineered Mouse Models | Single-Cell Omics | Immuno-oncology | Scientific Strategy | Cross-functional Collaboration | Academic-Industry Partnerships | Scientific Leadership & Mentorship | Scientific Communications

EDUCATION

- **Ph.D. in Biochemistry and Molecular Biology**

University of Oviedo, Spain; 1998

- **Postdoctoral Fellowships in Cancer Genomics**

Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, 1999-2000 (Dr. Thomas Deuel)

Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA, 2000-2004 (Dr. Thomas Look)

ACADEMIC APPOINTMENTS

- **Professor of Pathology & Cell Biology**

Columbia University Irving Medical Center, New York, NY

2022–Present

- **Associate Professor of Pathology & Cell Biology**

Columbia University Irving Medical Center, New York, NY

2012–2022

- **Assistant Professor of Pathology & Cell Biology**

Columbia University Irving Medical Center, New York, NY

2005–2011

- **Director, Cancer Biology I Graduate Course**

Columbia University Irving Medical Center, New York, NY

2022-present

- **Director Graduate Studies Cancer Biology Track**

VIPRE-Columbia University Irving Medical Center, New York, NY

2025-Present

RESEARCH & LEADERSHIP HIGHLIGHTS

- **Genomic Discoveries:** Identified key mutations in T-cell acute lymphoblastic leukemia (T-ALL) (e.g., PTEN, PHF6 and NT5C2) and peripheral T-cell Lymphoma (PTCL) (e.g., *RHOA G17V*, *FYN*, *VAV1* and *FYN-TRAF3IP2* fusions) driving transformation and biomarkers of disease subtypes (*RHOA G17V* in angioimmunoblastic T-cell lymphomas (AITL)). These findings have been instrumental for the understanding of disease mechanisms and identification of potential therapeutic targets.

- **Preclinical Model Development:** Pioneered the creation of genetically engineered mouse models for Angioimmunoblastic T-cell Lymphoma (AITL) and Peripheral T-cell Lymphoma, facilitating *in vivo* studies of disease progression and treatment efficacy.

- **Single cell multimodal analysis of lymphoma and microenvironment:** high throughput sequencing analysis of human lymphoma to study disease evolution and microenvironment determinants of transformation and therapeutic response.

- **Therapeutic Innovations:** Led research uncovering mechanisms of chemotherapy resistance in T-cell leukemias, including PTEN and NT5C2 mutations, informing the development of novel treatment approaches based on specific therapeutic vulnerabilities.

- **Collaborative Research:** Engaged in multidisciplinary collaborations, integrating genomic technologies and artificial intelligence large language models with clinical insights to advance translational cancer research.

SELECTED PUBLICATIONS

- Bertulfo K, Perez-Duran P, Miller H, (...) [Palomero T.](#) (2025) Therapeutic targeting of the NOTCH1 and neddylation pathways in T cell acute lymphoblastic leukemia **Proc Natl Acad Sci U S A.** 122(14):e2426742122.

- Fu X, Mo S, Buendia A, Laurent AP (...) [Palomero T](#), Xing EP, Rabadan R (2025) A foundation model of transcription across human cell types. **Nature** 637(8047):965-973. PMID: 39779852
- Wendorff A, Quinn SA, Alvarez S (...) [Palomero T](#) and Ferrando AA (2022) Epigenetic reversal of hematopoietic stem cell aging in Phf6 knockout mice. **Nature Aging**; 2(11):1008-1023. PMID: 37118089
- Cortes JR, Filip I*, Alberio R*, Patiño-Galindo JA* (...) [Palomero T](#) (2022) Oncogenic Vav1-Myo1f induces therapeutically targetable macrophage-rich tumor microenvironment in Peripheral T-cell Lymphoma. **Cell Rep.** 39(3):110695. PMID: 35443168
- Reglero C, Dieck C, Zask A (...) [Palomero T](#) and Ferrando AA# (2022) Pharmacological inhibition of NT5C2 reverses genetic and non-genetic drivers of 6-MP resistance in acute lymphoblastic leukemia. **Cancer Discov.** 12(11):2646-2665. PMID: 35984649
- Cortés JR, Ambesi-Impiombato A, Couronné L (...) [Palomero T](#) "RHOA G17V Induces T Follicular Helper Cell Specification and Promotes Lymphomagenesis." **Cancer Cell.** 2018;33(2):259-273.
- Abate F, da Silva Almeida AC, Zairis S (...) [Palomero T](#) VAV1 activating mutations and translocations in peripheral T-cell lymphomas (2017) **Proc Natl Acad Sci** 114(4):764-769. PMID: 28062691
- da Silva Almeida AC, Abate F, Khiabani H, (...) [Palomero T](#) "The mutational landscape of cutaneous T cell lymphoma and Sézary syndrome." **Nat Genet.** 2015;47(12):1465-1470.
- [Palomero T](#), Couronné L, Khiabani H, *et al.* "Recurrent mutations in epigenetic regulators, RHOA and FYN kinase in peripheral T cell lymphomas." **Nat Genet.** 2014;46(2):166-170
- Van Vlierberghe P*, [Palomero T](#)*, Khiabani H *et al.* PHF6 mutations in T-cell acute lymphoblastic leukemia (2010) **Nat Genet.** 42(4):338-42. PMID: 20228800 (* equal contribution)
- [Palomero T](#), Sulis ML, Cortina M, *et al* Mutational loss of PTEN induces resistance to NOTCH1 inhibition in T-cell leukemia (2007) **Nat Med.** 13(10):1203-10. PMID: 1787388

GRANT FUNDING & AWARDS

Successfully funded investigator with uninterrupted federal, foundation, industry and internal funding for over 15 years.

- **National Institutes of Health (NIH):** Continuously funded principal Investigator on multiple R01/U01 grants focusing on T-cell lymphoma pathogenesis and therapeutic development.
- **Blood Cancer United:** Recipient of the Discovery Grant Program grant for the project "Targeting Microenvironment Determinants in Peripheral T-cell Lymphoma and a Translational Research Grant on "Therapeutic Targeting of Sphingosine-1-phosphate Receptor 1 in Angioimmunoblastic T-Cell Lymphoma."
- **Herbert Irving Comprehensive Cancer Center (HICCC):** recipient of institutional seed funding to characterize light-releasable oncologic drugs; perform correlative analysis in preclinical and clinical trials.
- **Industry-sponsored projects** to test small molecule therapeutic efficacy *in vitro* and *in vivo* in Peripheral T-cell Lymphoma preclinical models.

CONSULTATIVE WORK

International Scientific Review & Advisory Roles

Grant Evaluation: Czech Science Foundation | European Hematology Association (EHA) | Fondazione AIRC (Italy) | Agencia Nacional de Evaluación y Prospectiva (Spain) | Qatar National Research Fund | Singapore National Research Foundation

Scientific Advisory Board: Josep Carreras Leukaemia Research Institute (Spain) | IDIBAPS, University of Barcelona | IUOPA, University of Oviedo | Lymphoma Research Foundation

National Federal Scientific Review NIH Study Sections Cancer Biomarkers (CBSS/MCDC) (ad-hoc (2019) and standing member (2020-2026) | NIH Lasker Program | DoD Peer Review CDMRP, BloC-1 Panel, Rare Cancers Research Program

National Non-Federal Advisory & Review Activities Grant evaluation | Scientific Mentoring | Scientific Advisory Board | Program Development | Leukemia & Lymphoma Society (LLS) | American Society of Hematology (ASH) | American Association for Cancer Research (AACR) | Lymphoma Research Foundation (LRF)(executive committee; 2026 Chair of Lymphoma Research Foundation's Lymphoma Scientific Research Mentoring Program; Scientific Advisory board 2021-present) | Center for Pacific Innovations, Knowledge, & Opportunities (HI)

PROFESSIONAL AFFILIATIONS

American Society of Hematology | New York Academy of Sciences | American Association for Cancer Research