**TERESA PALOMERO**

**Overview**

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**Academic Appointments**

* Associate Professor of Pathology & Cell Biology

**Research**

Teresa Palomero studies the genetics and mechanisms of transformation in Peripheral T-cell Lymphoma (PTCL), a heterogenous group of mature T-cell malignancies. Her group developed a cutting-edge research program implementing the integrative use of whole exome sequencing, gene expression profiling and single cell sequencing to identify novel drivers of transformation and tumor evolution in PTCL. They identified RHOA G17V and FYN mutations as major drivers of Angioinmunoblastic T cell lymphoma (AITL); dissected the mutational landscape of cutaneous T cell lymphoma (CTCL) and Sezary Syndrome; and identified new activating alterations in VAV1 in PTCL. Moreover, they pioneered the development of some of the first genetically engineered mouse models of AITL. Using those models in combination with in-depth understanding of the mechanisms of transformations in PTCL, the Palomero laboratory has the expertise to evaluate the impact of targeted therapies in T-cell lymphoma.

**Selected Publications**

1. **RHOA G17V Induces T Follicular Helper Cell Specification and Promotes Lymphomagenesis**Cortes JR, Ambesi-Impiombato A, Couronné L, Quinn SA, Kim CS, da Silva Almeida AC, West Z, Belver L, Martin MS, Scourzic L, Bhagat G, Bernard OA, Ferrando AA, Palomero T  
   Cancer Cell. 2018.  
   PMID: 29398449, DOI: 10.1016/j.ccell.2018.01.001
2. **Activating mutations and translocations in the guanine exchange factor VAV1 in peripheral T-cell lymphomas**Abate F, da Silva-Almeida AC, Zairis S, Robles-Valero J, Couronne L, Khiabanian H, Quinn SA, Kim MY, Laginestra MA, Kim C, Fiore D, Bhagat G, Piris MA, Campo E, Lossos IS, Bernard OA, Inghirami G, Pileri S, Bustelo XR, Rabadan R, Ferrando AA, Palomero T  
   Proc Natl Acad Sci USA. 2017.  
   PMID: 28062691, DOI: 10.1073/pnas.1608839114
3. **Mutational landscape, clonal evolution patterns, and role of RAS mutations in relapsed acute lymphoblastic leukemia**Oshima K, Khiabanian H, da Silva-Almeida AC, Tzoneva G, Abate F, Ambesi-Impiombato A, Sanchez-Martin M, Carpenter Z, Penson A, Perez-Garcia A, Eckert C, Nicolas C, Balbin M, Sulis ML, Kato M, Koh K, Paganin M, Basso G, Gastier-Foster JM, Devidas M, Loh ML, Kirschner-Schwabe R, Palomero T, Rabadan R, Ferrando AA  
   Proc Natl Acad Sci USA. 2016.  
   PMID: 27655895, DOI: 10.1073/pnas.1608420113
4. **The mutational landscape of cutaneous T cell lymphoma and Sézary syndrome**da Silva Almeida AC, Abate F, Khiabanian H, Martinez-Escala E, Guitart J, Tensen CP, Vermeer MH, Rabadan R, Ferrando A, Palomero T  
   Nat Genet. 2015.  
   PMID: 26551667, DOI: 10.1038/ng.3442
5. **Recurrent mutations in epigenetic regulators, RHOA and FYN kinase in peripheral T cell lymphomas**Palomero T, Couronné L, Khiabanian H, Kim MY, Ambesi-Impiombato A, Perez-Garcia A, Carpenter Z, Abate F, Allegretta M, Haydu JE, Jiang X, Lossos IS, Nicolas C, Balbin M, Bastard C, Bhagat G, Piris MA, Campo E, Bernard OA, Rabadan R, Ferrando AA  
   Nat Genet. 2014.  
   PMID: 24413734, DOI: 10.1038/ng.2873
6. **Activating mutations in the NT5C2 nucleotidase gene drive chemotherapy resistance in relapsed ALL**Tzoneva G, Perez-Garcia A, Carpenter Z, Khiabanian H, Tosello V, Allegretta M, Paietta E, Racevskis J, Rowe JM, Tallman MS, Paganin M, Basso G, Hof J, Kirschner-Schwabe R, Palomero T, Rabadan R, Ferrando A  
   Nat Med. 2013.  
   PMID: 23377281, DOI: 10.1038/nm.3078
7. **Reverse engineering of TLX oncogenic transcriptional networks identifies RUNX1 as tumor suppressor in T-ALL**Della Gatta G, Palomero T, Perez-Garcia A, Ambesi-Impiombato A, Bansal M, Carpenter ZW, De Keersmaecker K, Sole X, Xu L, Paietta E, Racevskis J, Wiernik PH, Rowe JM, Meijerink JP, Califano A, Ferrando AA  
   Nat Med. 2012.  
   PMID: 22366949, DOI: 10.1038/nm.2610
8. **The TLX1 oncogene drives aneuploidy in T cell transformation**De Keersmaecker K, Real PJ, Gatta GD, Palomero T, Sulis ML, Tosello V, Van Vlierberghe P, Barnes K, Castillo M, Sole X, Hadler M, Lenz J, Aplan PD, Kelliher M, Kee BL, Pandolfi PP, Kappes D, Gounari F, Petrie H, Van der Meulen J, Speleman F, Paietta E, Racevskis J, Wiernik PH, Rowe JM, Soulier J, Avran D, Cavé H, Dastugue N, Raimondi S, Meijerink JP, Cordon-Cardo C, Califano A, Ferrando AA  
   Nat Med. 2010.  
   PMID: 20972433, DOI: 10.1038/nm.2246
9. **PHF6 mutations in T-cell acute lymphoblastic leukemia**Van Vlierberghe P, Palomero T, Khiabanian H, Van der Meulen J, Castillo M, Van Roy N, De Moerloose B, Philippé J, González-García S, Toribio ML, Taghon T, Zuurbier L, Cauwelier B, Harrison CJ, Schwab C, Pisecker M, Strehl S, Langerak AW, Gecz J, Sonneveld E, Pieters R, Paietta E, Rowe JM, Wiernik PH, Benoit Y, Soulier J, Poppe B, Yao X, Cordon-Cardo C, Meijerink J, Rabadan R, Speleman F, Ferrando A  
   Nat Genet. 2010.  
   PMID: 20228800, DOI: 10.1038/ng.542
10. **ChIP-on-chip significance analysis reveals large-scale binding and regulation by human transcription factor oncogenes**Margolin AA, Palomero T, Sumazin P, Califano A, Ferrando AA, Stolovitzky G  
    Proc Natl Acad Sci USA. 2009.  
    PMID: 19118200, DOI: 10.1073/pnas.0806445106
11. **Gamma-secretase inhibitors reverse glucocorticoid resistance in T cell acute lymphoblastic leukemia**Real PJ, Tosello V, Palomero T, Castillo M, Hernando E, de Stanchina E, Sulis ML, Barnes K, Sawai C, Homminga I, Meijerink J, Aifantis I, Basso G, Cordon-Cardo C, Ai W, Ferrando A  
    Nat Med. 2009.  
    PMID: 19098907, DOI: 10.1038/nm.1900
12. **NOTCH1 extracellular juxtamembrane expansion mutations in T-ALL**Sulis ML, Williams O, Palomero T, Tosello V, Pallikuppam S, Real PJ, Barnes K, Zuurbier L, Meijerink JP, Ferrando AA  
    Blood. 2008.  
    PMID: 18411416, DOI: 10.1182/blood-2007-12-130096
13. **Mutational loss of PTEN induces resistance to NOTCH1 inhibition in T-cell leukemia**Palomero T, Sulis ML, Cortina M, Real PJ, Barnes K, Ciofani M, Caparros E, Buteau J, Brown K, Perkins SL, Bhagat G, Agarwal AM, Basso G, Castillo M, Nagase S, Cordon-Cardo C, Parsons R, Zúñiga-Pflücker JC, Dominguez M, Ferrando AA  
    Nat Med. 2007.  
    PMID: 17873882, DOI: 10.1038/nm1636
14. **NOTCH1 directly regulates c-MYC and activates a feed-forward-loop transcriptional network promoting leukemic cell growth**Palomero T, Lim WK, Odom DT, Sulis ML, Real PJ, Margolin A, Barnes KC, O'Neil J, Neuberg D, Weng AP, Aster JC, Sigaux F, Soulier J, Look AT, Young RA, Califano A, Ferrando AA  
    Proc Natl Acad Sci USA. 2006.  
    PMID: 17114293, DOI: 10.1073/pnas.0606108103
15. **CUTLL1, a novel human T-cell lymphoma cell line with t(7;9) rearrangement, aberrant NOTCH1 activation and high sensitivity to gamma-secretase inhibitors**Palomero T, Barnes KC, Real PJ, Glade Bender JL, Sulis ML, Murty VV, Colovai AI, Balbin M, Ferrando AA  
    Leukemia. 2006.  
    PMID: 16688224, DOI: 10.1038/sj.leu.2404258