**LAURA PASQUALUCCI**

**Overview**

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**Academic Appointments**

* Professor of Pathology & Cell Biology

**Research**

Laura Pasqualucci’s research interests focus on the molecular pathogenesis of B cell malignancies, with emphasis on its most common types, diffuse large B cell lymphoma (DLBCL) and follicular lymphoma (FL). The laboratory takes advantage of integrated multi-omics approaches, biochemical assays, and genetically-engineered mouse models to identify and functionally characterize the genetic alterations associated with these cancers, and to understand the role of the affected genes in the physiologic germinal center (GC) reaction, a specialized microenvironment from which most B cell lymphomas arise. A major area of investigation focuses on the methyltransferase KMT2D and the acetyltransferase CREBBP, two histone/chromatin modifiers that we discovered as highly recurrent mutational targets and early events in the evolutionary history of FL/DLBCL. These genes have emerged as central players in many different cancers, and we have documented they act as tumor suppressors genes, the loss of which contributes to lymphomagenesis by remodeling the epigenome of the GC. This information is currently being exploited for the development of novel biomarkers and rational treatment options in these diseases.

**Selected Publications**

1. **Genomic characterization of HIV-associated plasmablastic lymphoma identifies pervasive mutations in the JAK-STAT pathway**Liu Z, Filip I, Gomez K, Engelbrecht D, Meer S, Lalloo PN, Patel P, Perner Y, Zhao J, Wang J, Pasqualucci L, Rabadan R, Willem P  
   Blood Cancer Discov. 2020.  
   PMID: 33225311, DOI: 10.1158/2643-3249.bcd-20-0051
2. **Unique and Shared Epigenetic Programs of the CREBBP and EP300 Acetyltransferases in Germinal Center B Cells Reveal Targetable Dependencies in Lymphoma**Meyer SN, Scuoppo C, Vlasevska S, Bal E, Holmes AB, Holloman M, Garcia-Ibanez L, Nataraj S, Duval R, Vantrimpont T, Basso K, Brooks N, Dalla-Favera R, Pasqualucci L  
   Immunity. 2019.  
   PMID: 31519498, DOI: 10.1016/j.immuni.2019.08.006
3. **Molecular pathogenesis of germinal center-derived B cell lymphomas**Pasqualucci L  
   Immunol Rev. 2019.  
   PMID: 30874347, DOI: 10.1111/imr.12745
4. **The CREBBP Acetyltransferase Is a Haploinsufficient Tumor Suppressor in B-cell Lymphoma**Zhang J, Vlasevska S, Wells VA, Nataraj S, Holmes AB, Duval R, Meyer SN, Mo T, Basso K, Brindle PK, Hussein S, Dalla-Favera R, Pasqualucci L  
   Cancer Discov. 2017.  
   PMID: 28069569, DOI: 10.1158/2159-8290.CD-16-1417
5. **Disruption of KMT2D perturbs germinal center B cell development and promotes lymphomagenesis**Zhang J, Dominguez-Sola D, Hussein S, Lee JE, Holmes AB, Bansal M, Vlasevska S, Mo T, Tang H, Basso K, Ge K, Dalla-Favera R, Pasqualucci L  
   Nat Med. 2015.  
   PMID: 26366712, DOI: 10.1038/nm.3940
6. **Genetics of follicular lymphoma transformation**Pasqualucci L, Khiabanian H, Fangazio M, Vasishtha M, Messina M, Holmes AB, Ouillette P, Trifonov V, Rossi D, Tabbò F, Ponzoni M, Chadburn A, Murty VV, Bhagat G, Gaidano G, Inghirami G, Malek SN, Rabadan R, Dalla-Favera R  
   Cell Rep. 2014.  
   PMID: 24388756, DOI: 10.1016/j.celrep.2013.12.027
7. **Combined genetic inactivation of β2-Microglobulin and CD58 reveals frequent escape from immune recognition in diffuse large B cell lymphoma**Challa-Malladi M, Lieu YK, Califano O, Holmes AB, Bhagat G, Murty VV, Dominguez-Sola D, Pasqualucci L, Dalla-Favera R  
   Cancer Cell. 2011.  
   PMID: 22137796, DOI: 10.1016/j.ccr.2011.11.006
8. **Analysis of the coding genome of diffuse large B-cell lymphoma**Pasqualucci L, Trifonov V, Fabbri G, Ma J, Rossi D, Chiarenza A, Wells VA, Grunn A, Messina M, Elliot O, Chan J, Bhagat G, Chadburn A, Gaidano G, Mullighan CG, Rabadan R, Dalla-Favera R  
   Nat Genet. 2011.  
   PMID: 21804550, DOI: 10.1038/ng.892
9. **Analysis of the chronic lymphocytic leukemia coding genome: role of NOTCH1 mutational activation**Fabbri G, Rasi S, Rossi D, Trifonov V, Khiabanian H, Ma J, Grunn A, Fangazio M, Capello D, Monti S, Cresta S, Gargiulo E, Forconi F, Guarini A, Arcaini L, Paulli M, Laurenti L, Larocca LM, Marasca R, Gattei V, Oscier D, Bertoni F, Mullighan CG, FoÃ¡ R, Pasqualucci L, Rabadan R, Dalla-Favera R, Gaidano G  
   J Exp Med. 2011.  
   PMID: 21670202, DOI: 10.1084/jem.20110921
10. **Inactivating mutations of acetyltransferase genes in B-cell lymphoma**Pasqualucci L, Dominguez-Sola D, Chiarenza A, Fabbri G, Grunn A, Trifonov V, Kasper LH, Lerach S, Tang H, Ma J, Rossi D, Chadburn A, Murty VV, Mullighan CG, Gaidano G, Rabadan R, Brindle PK, Dalla-Favera R  
    Nature. 2011.  
    PMID: 21390126, DOI: 10.1038/nature09730
11. **BLIMP1 is a tumor suppressor gene frequently disrupted in activated B cell-like diffuse large B cell lymphoma**Mandelbaum J, Bhagat G, Tang H, Mo T, Brahmachary M, Shen Q, Chadburn A, Rajewsky K, Tarakhovsky A, Pasqualucci L, Dalla-Favera R  
    Cancer Cell. 2010.  
    PMID: 21156281, DOI: 10.1016/j.ccr.2010.10.030
12. **Mutations of multiple genes cause deregulation of NF-kappaB in diffuse large B-cell lymphoma**Compagno M, Lim WK, Grunn A, Nandula SV, Brahmachary M, Shen Q, Bertoni F, Ponzoni M, Scandurra M, Califano A, Bhagat G, Chadburn A, Dalla-Favera R, Pasqualucci L  
    Nature. 2009.  
    PMID: 19412164, DOI: 10.1038/nature07968
13. **AID is required for germinal center-derived lymphomagenesis**Pasqualucci L, Bhagat G, Jankovic M, Compagno M, Smith P, Muramatsu M, Honjo T, Morse HC, Nussenzweig MC, Dalla-Favera R  
    Nat Genet. 2008.  
    PMID: 18066064, DOI: 10.1038/ng.2007.35
14. **Deregulated BCL6 expression recapitulates the pathogenesis of human diffuse large B cell lymphomas in mice**Cattoretti G, Pasqualucci L, Ballon G, Tam W, Nandula SV, Shen Q, Mo T, Murty VV, Dalla-Favera R  
    Cancer Cell. 2005.  
    PMID: 15894265, DOI: 10.1016/j.ccr.2005.03.037
15. **Hypermutation of multiple proto-oncogenes in B-cell diffuse large-cell lymphomas**Pasqualucci L, Neumeister P, Goossens T, Nanjangud G, Chaganti RS, KÃ¼ppers R, Dalla-Favera R  
    Nature. 2001.  
    PMID: 11460166, DOI: 10.1038/35085588