

## Product Focus

Zeta is very excited and proud to share IVD antibodies researched and developed for Anatomic Pathology market for Immunohistochemistry. Zeta is incorporating highly sensitive technology to develop many of these Monospecific primary antibodies that are Target-Validated and Characterized for IHC on FFPE tissue sections.

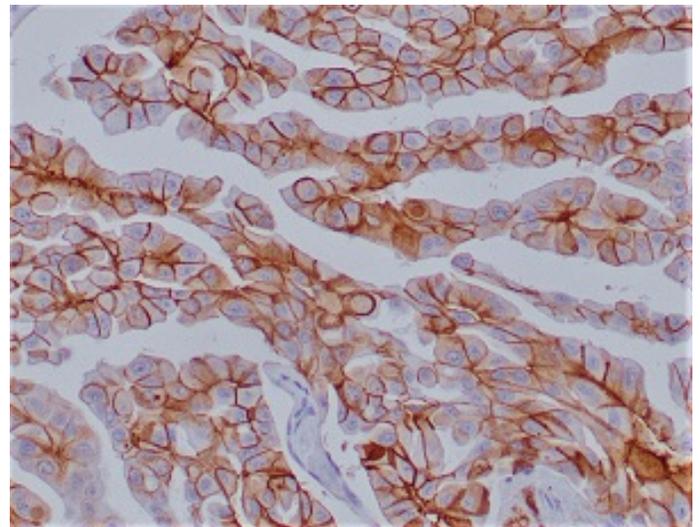
Zeta provides over 300 IVD antibodies for cancer targeted therapy and immunotherapy due to gene mutations, chromosomal translocations or gene amplifications.

### **PD-L1 Rabbit Monoclonal Antibody**

IVD

**Anti-rabbit: clone ZR3, Cat # Z2002**

"Programmed cell death ligand 1 (PD-L1), also known as cluster of differentiation (CD274) or B7 homolog 1 (B7-H1), is a type 1 transmembrane protein involved in the regulation of cellular and humoral immune responses. The interaction of PD-L1 with its receptor PD-1 provides both stimulatory and inhibitory signals in regulating T cell activation and tolerance during pregnancy, tissue allografts, autoimmune disease, and malignant transformation. The binding of PD-L1 to PD-1 induces apoptosis or exhaustion in activated T cells, and blockade of this interaction has been shown to enhance the antitumor activity of T cells. PD-L1 is frequently overexpressed in the placenta and in many human tumors such as melanoma, diffuse large B-cell lymphoma, and carcinomas of the lung, bladder, breast, kidney, and colon."



Lung Adenocarcinoma stained with PD-L1 (ZR3)

\*Reference:

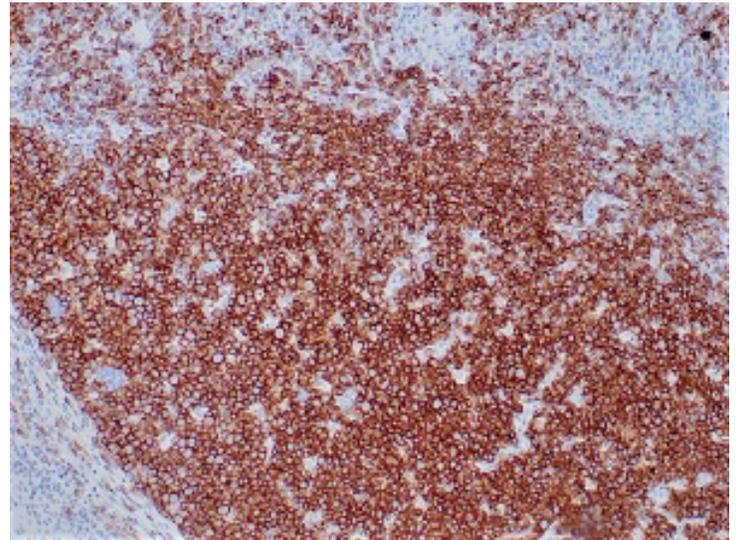
<https://jitc.biomedcentral.com/articles/10.1186/s40425-019-0768-9>

<https://www.ncbi.nlm.nih.gov/pubmed/29745928>

## CD19 Rabbit Monoclonal Antibody Anti-rabbit: clone ZR212, Cat # Z2547

IVD

"In normal lymphoid tissue, CD19 is observed in germinal centers (on both B cells and follicular dendritic cells), in mantle zone cells, and in scattered cells in the interfollicular areas, with an overall immunoreactivity pattern similar to that of CD20 and CD22. However, in contrast to CD20, CD19 is also expressed in pre-B cells. CD19 positivity is seen in the vast majority of B-cell neoplasms (B-lymphoblastic lymphoma, small lymphocytic lymphoma/CLL, mantle cell lymphoma, follicular lymphoma, Burkitt lymphoma, marginal zone lymphoma, diffuse large B-cell lymphoma, T-cell rich B-cell lymphoma, lymphoblastic lymphoma, hairy cell leukemia) and commonly at a lower intensity than normal B-cell elements. Plasma cell neoplasms are consistently negative as are T-cell neoplasms. CD19 was undetectable in 14% of diffuse large B-cell lymphomas, 30% of T-cell-rich B-cell lymphomas, and 75% of post-transplant B-lymphoproliferative disease. CD19 expression is not seen in Reed Sternberg cells of classic Hodgkin lymphoma."



Tonsil follicle stain with CD19 (ZR212)

\*Reference:

<https://www.ncbi.nlm.nih.gov/pubmed/24365143>

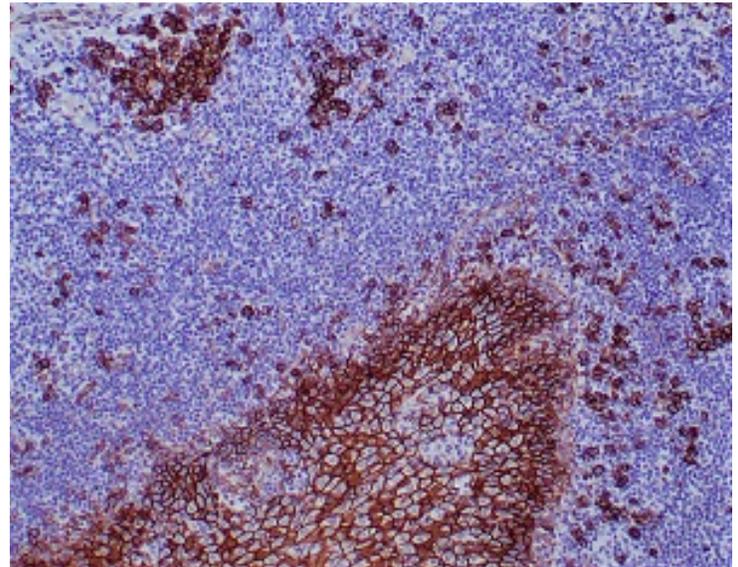
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5536094/>

<https://www.targetedonc.com/view/cd19-targeted-agents-continue-to-show-positive-outcomes>

## CD138 Mouse Monoclonal Antibody Anti-mouse: clone B-A38, Cat # Z2116

IVD

"CD138 identifies a heparan sulfate-rich membrane glycoprotein of 200 kD known as syndecan-1. Syndecan-1 functions as a receptor for collagen, fibronectin, and thrombospondin, and is expressed at distinct stages of normal B cell differentiation: in pre-B cells and Ig-producing plasma cells. CD138 antibody stains normal and neoplastic plasma cells, but not normal or malignant T cells, myeloid cells, megakaryocytes, or erythroid cells. It is extremely helpful in identifying nonneoplastic and neoplastic plasma cells in multiple myeloma, lymphoplasmacytic lymphoma, and other hematologic malignancies of plasmacytic derivation. Plasma-blastic lymphomas with plasmacytoid features are positive for CD138. CD138 is also commonly expressed by non-hematolymphoid tumors, such as carcinoma, mesenchymal neoplasms, and melanoma. Thus, one must first establish a hematolymphoid origin before using CD138 reactivity to define plasmacytic derivation."



Tonsil stained with CD138 (B-A38). Note epithelial and plasma cells positive

\*Reference:

Chu, Peiguo, and Lawrence M Weiss. Modern Immunohistochemistry. 2<sup>nd</sup> ed., Cambridge, Cambridge University Press, 2014, pp.313.

<https://www.sciencedirect.com/science/article/pii/S2352177515000023>

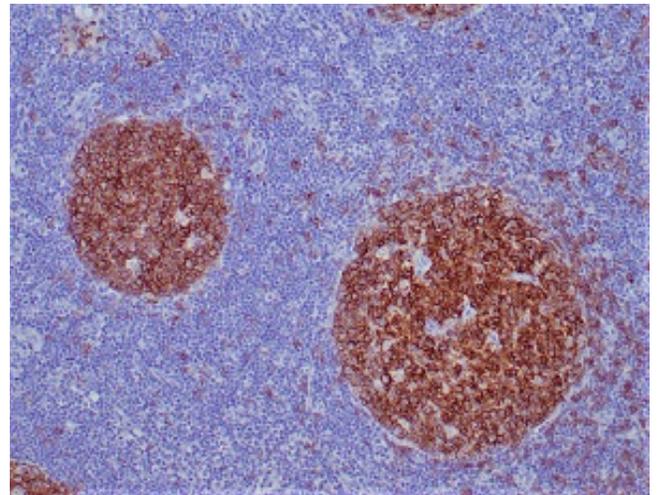
[https://www.researchgate.net/publication/258036198\\_CD138\\_syndecan-1\\_expression\\_in\\_health\\_and\\_disease](https://www.researchgate.net/publication/258036198_CD138_syndecan-1_expression_in_health_and_disease)

<https://ashpublications.org/blood/article/129/20/2749/36120/CD138-mediates-selection-of-mature-plasma-cells-by>

## CD20 Mouse Monoclonal Antibody Anti-mouse: clone ZM86, Cat # Z2369

IVD

Recognizes a pr+P54otein of 30-33kDa, which is identified as CD20. It is a non-Ig differentiation antigen of B-cells and its expression is restricted to normal and neoplastic B-cells, being absent from all other leukocytes and tissues. CD20 is expressed by pre-B-cells and persists during all stages of B- cell maturation but is lost upon terminal differentiation into plasma cells. This MAb can be used for immunophenotyping of leukemia and malignant cells, B lymphocyte detection in peripheral blood and B cell localization in tissues. It reacts with the majority of B-cells present in peripheral blood and lymphoid tissues and their derived lymphomas. In lymphoid tissue, germinal center blasts and B-immunoblasts are particularly reactive. It is a reliable antibody for ascribing a B- cell phenotype in known lymphoid tissues.



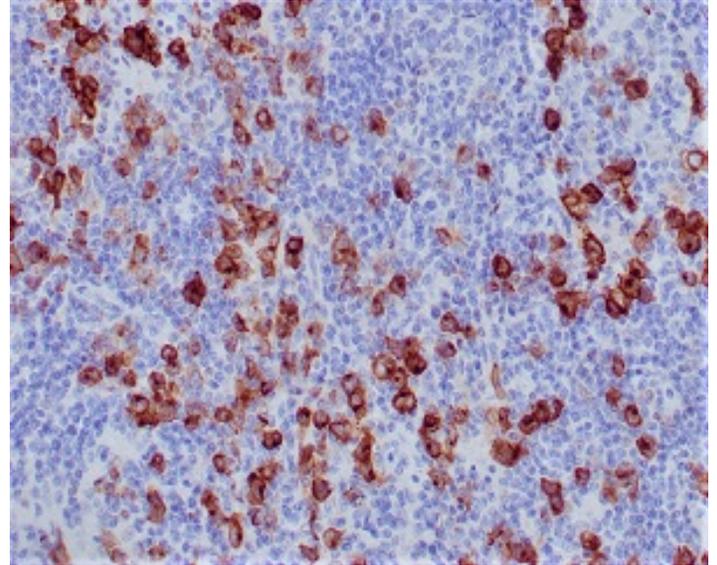
Lymph node stained with CD20 (ZM86)

1. Aguilera NS, et al. *Arch Pathol Lab Med.* 2006; 130:1772-9.
2. Barrionuevo C, et al. *Appl Immunohistochem Mol Morphol.* 2007; 15:38-44.
3. Bovenschen HJ, et al. *Br J Dermatol.* 2005; 153:72-8.

## CD30 Mouse Monoclonal Antibody Anti-rabbit: clone ZR248, Cat # Z2489

IVD

Recognizes a single chain glycoprotein of 105/120kDa, identified as CD30/Ki-1. CD30 is synthesized as a 90kDa precursor, which is processed in the Golgi complex into a membrane-bound phosphorylated mature 105/120kDa glycoprotein. In Hodgkin's disease, CD30/Ki-1 antigen is expressed by mononuclear-Hodgkin and multinucleated Reed-Sternberg cells. It is also expressed by the tumor cells of a majority of anaplastic large cell lymphomas as well as by a varying proportion of activated T and B cells. This MAb distinguishes large cell lymphomas derived from activated lymphoid cells from histiocytic malignancies and lymphomas derived from resting and precursor lymphoid cells or from anaplastic carcinomas. About one third of the Ki-1 positive lymphomas lack the leukocyte common antigen (CD45).



Hodgkin lymphoma stained with CD30 (ZR248)

1. Schwarting R, et al. *Blood*. 1989; 74:1678-89.
2. George DH, et al. *Am J Surg Pathol*. 2003; 27:487-93.
3. Hedvat CV, et al. *Hum Pathol*. 2002; 33:968-74.