CD20 Recombinant Antibody [PD00-02] - Mouse IgG1 (Chimeric)

HA601544

Product Type:	Recombinant Chimeric Antibody, primary antibodies
Species reactivity:	Human, Mouse
Applications:	WB, IHC-P, IHC-Fr
Molecular Wt:	Predicted band size: 33 kDa
Clone number:	PD00-02

Description: The CD20 antigen is a membrane-embedded, non-glycosylated phosphoprotein, 33-37 kDa. CD20 functions as a Ca2+-permeable cation channel, involved in the regulation of B-cell activation, proliferation and differentiation. CD20 appears on the surface of the pre-B lymphocyte between the time of light chain rearrangement and expression of intact surface immunoglobulin and is lost just before terminal B-cell differentiation into plasma cells. CD20 is virtually specific for normal B-cells. A weak expression has been demonstrated in a subpopulation of T-cells, but not in any other cell type. CD20 is expressed in the large majority of cases of B-cell leukaemia/lymphoma. Early stage precursor B lymphoblastic leukaemia/lymphoma may be negative, and chronic lymphocytic leukaemia/small cell lymphoma may show a weak staining. Plasma cell neoplasms are as a rule CD20 negative. T-cell lymphomas are almost always negative, but CD20 has been demonstrated in few cases of various types of T-cell lymphoma. In Hodgkin lymphoma, the nodular lymphocyte-predominant subtype shows CD20 staining of L&H cells in most cases, while Reed-Sternberg cells in the other subtypes reveal CD20 positivity in about 40, albeit in a minority of neoplastic cells. Acute myeloid leukaemia is CD20 positive in few cases, while blastic transformation in chronic myeloid leukaemia is accompanied by CD20 positivity in about 30%. Thymoma may reveal CD20 positivity in a spindle cell component. In patients treated with retuximab (a humanized anti-CD20 antibody) for malignant B-cell lymphoma, the CD20 epitopes disappear (both in normal and neoplastic B-cells) as a result of down-modulation of CD20 m-RNA in the cells. This process is potentially reversible. Together with CD79a, CD20 is one of the most important markers for the identification of B-cell neoplasms as outlined above. Tonsil and appendix are appropriate controls: The mantle zone B-cells and the germinal centre B-cells must show a very strong staining reaction. No other cells should stain.

Immunogen:	Synthetic peptide within Human CD20 aa 210-297 (Cytoplasmic).
Positive control:	Raji cell lysate, Ramos cell lysate, Daudi cell lysate, human tonsil tissue, mouse spleen tissue.
Subcellular location:	Cell membrane.
Database links:	SwissProt: P11836 Human | P19437 Mouse

Recommended Dilutions:

WB	1:5,000
IHC-P	1:20,000
IHC-Fr	1:500

Storage Buffer:	PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

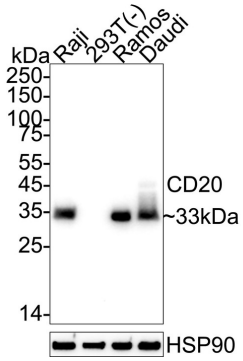

Fig1: Western blot analysis of CD20 on different lysates with Mouse anti-CD20 antibody (HA601544) at 1/5,000 dilution.

Lane 1: Raji cell lysate (20 µg/Lane)
Lane 2: 293T cell lysate (negative) (20 µg/Lane)
Lane 3: Ramos cell lysate (20 µg/Lane)
Lane 4: Daudi cell lysate (20 µg/Lane)

Predicted band size: 33 kDa
Observed band size: 33 kDa

Exposure time: 10 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA601544) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

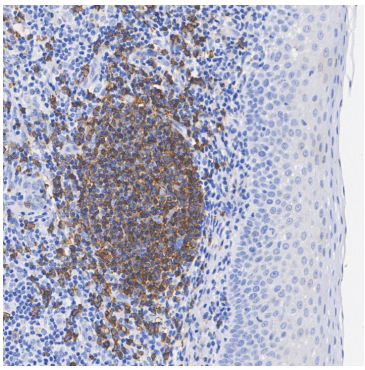

Fig2: Immunohistochemical analysis of paraffin-embedded human tonsil tissue with Mouse anti-CD20 antibody (HA601544) at 1/20,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA601544) at 1/20,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

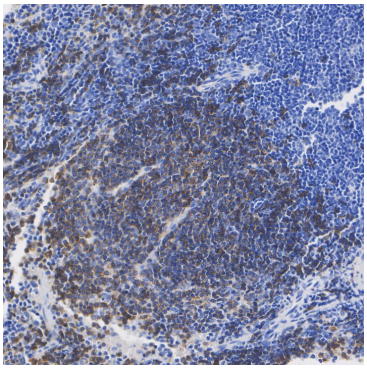

Fig3: Immunohistochemical analysis of paraffin-embedded mouse spleen tissue with Mouse anti-CD20 antibody (HA601544) at 1/20,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA601544) at 1/20,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

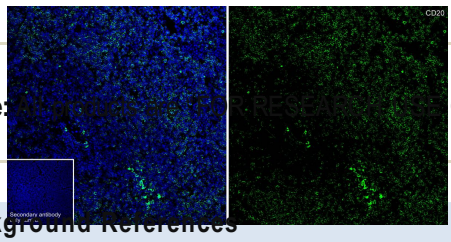

Fig4: Application: IHC-Fr

Species: Mouse

Site: Spleen

Sample: Frozen section

Antibody concentration: 1/500

Antigen retrieval: Not required

Note: [illegible] ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Jiang D. et. al. Pyruvate dehydrogenase kinase 4-mediated metabolic reprogramming is involved in rituximab resistance in diffuse large B-cell lymphoma by affecting the expression of MS4A1/CD20. Cancer Sci. 2021 Sep
2. Pavlasova G. et. al. The regulation and function of CD20: an "enigma" of B-cell biology and targeted therapy. Haematologica. 2020 Jun