

Anti-CD20 Antibody Picoband™ (monoclonal, 4D11)

Catalog # ABO16261

Product Information

Application	WB, IHC, IF
Primary Accession	P11836
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-CD20 Antibody Picoband™ (monoclonal, 4D11) . Tested in IF, IHC, WB applications. This antibody reacts with Human.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 µg/ml.

Additional Information

Gene ID	931
Other Names	B-lymphocyte antigen CD20, B-lymphocyte surface antigen B1, Bp35, Leukocyte surface antigen Leu-16, Membrane-spanning 4-domains subfamily A member 1, CD20, MS4A1, CD20
Calculated MW	33077
Application Details	Western blot, 0.25-0.5 µg/ml, Human Immunohistochemistry(Paraffin-embedded Section), 2-5 µg/ml, Human Immunofluorescence, 5 µg/ml, Human
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 4D11
Immunogen	E.coli-derived human CD20 recombinant protein (Position: M1-D261). Human CD20 shares 75% amino acid (aa) sequence identity with mouse CD20.
Purification	Immunogen affinity purified.
Storage	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.

Protein Information

Name	MS4A1
Synonyms	CD20
Function	B-lymphocyte-specific membrane protein that plays a role in the regulation of cellular calcium influx necessary for the development, differentiation, and activation of B-lymphocytes (PubMed: 12920111 , PubMed: 3925015 , PubMed: 7684739). Functions as a store-operated calcium (SOC) channel component promoting calcium influx after activation by the B-cell receptor/BCR (PubMed: 12920111 , PubMed: 18474602 , PubMed: 7684739).
Cellular Location	Cell membrane; Multi-pass membrane protein. Cell membrane; Lipid-anchor. Note=Constitutively associated with membrane rafts.
Tissue Location	Expressed on B-cells.

Background

CD20, also known as MS4A1, is an activated-glycosylated phosphoprotein expressed on the surface of all B-cells beginning at the pro-B phase (CD45R+, CD117+) and progressively increasing in concentration until maturity. It is mapped to 11q12.2. This gene encodes a member of the membrane-spanning 4A gene family. The function of CD20 is to enable optimal B-cell immune response, specifically against T-independent antigens. It is suspected that CD20 acts as a calcium channel in the cell membrane. What's more, this protein may be involved in the regulation of B-cell activation and proliferation.

Images

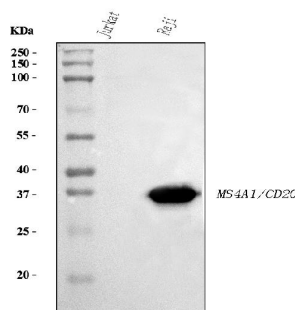


Figure 1. Western blot analysis of CD20 using anti-CD20 antibody (M03780-5).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

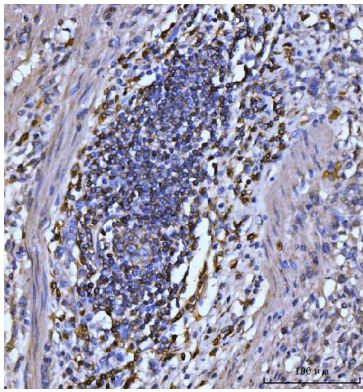
Lane 1: human Jurkat whole cell lysates,

Lane 2: human Raji whole cell lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-CD20 antigen affinity purified monoclonal antibody (Catalog # M03780-5) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for CD20 at approximately 33 kDa. The expected band size for CD20 is at 33 kDa.

Figure 2. IHC analysis of CD20 using anti-CD20 antibody (M03780-5).

CD20 was detected in a paraffin-embedded section of human gastric carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated



with 2 µg/ml mouse anti-CD20 Antibody (M03780-5) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

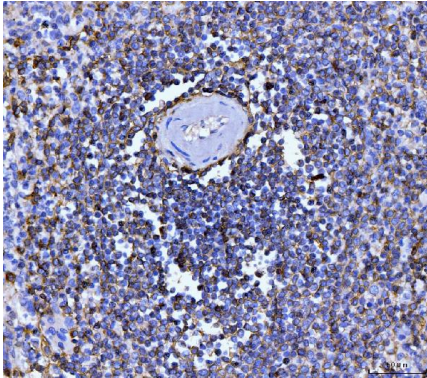


Figure 3. IHC analysis of CD20 using anti-CD20 antibody (M03780-5). CD20 was detected in a paraffin-embedded section of human lienal rupture tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-CD20 Antibody (M03780-5) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

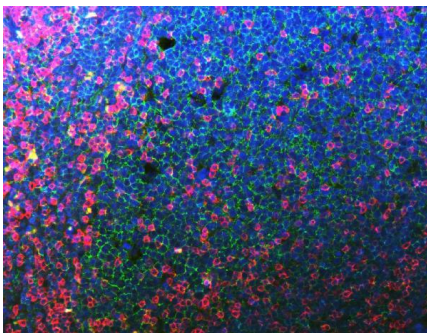


Figure 4. IF analysis of CD3E and CD20 using anti-CD3E antibody (PB9093) and anti-CD20 antibody (M03780-5). CD3E and CD20 was detected in a paraffin-embedded section of human tonsil tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 µg/mL rabbit anti-CD3E antibody (PB9093) and mouse anti-CD20 antibody (M03780-5) overnight at 4°C. DyLight®550 Conjugated Goat Anti-Rabbit IgG (BA1135), DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.