

**Anti-CD20 Antibody Picoband™ (monoclonal, 4D11)**  
**Catalog # ABO16261****Specification****Anti-CD20 Antibody Picoband™ (monoclonal, 4D11) - Product Information**

Application	WB, IHC, IF
Primary Accession	<a href="#">P11836</a>
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.

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

33 kDa KDa

**Application Details**

Western blot, 0.25-0.5 µg/ml, Human<br> Immunohistochemistry(Paraffin-embedded Section), 2-5 µg/ml, Human<br> Immunofluorescence, 5 µg/ml, Human<br>

**Contents**

Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.

**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.**

## Anti-CD20 Antibody Picoband™ (monoclonal, 4D11) - 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:<a href="http://www.uniprot.org/citations/12920111" target="\_blank">12920111</a>, PubMed:<a href="http://www.uniprot.org/citations/3925015" target="\_blank">3925015</a>, PubMed:<a href="http://www.uniprot.org/citations/7684739" target="\_blank">7684739</a>). Functions as a store-operated calcium (SOC) channel component promoting calcium influx after activation by the B-cell receptor/BCR (PubMed:<a href="http://www.uniprot.org/citations/12920111" target="\_blank">12920111</a>, PubMed:<a href="http://www.uniprot.org/citations/18474602" target="\_blank">18474602</a>, PubMed:<a href="http://www.uniprot.org/citations/7684739" target="\_blank">7684739</a>).

### Cellular Location

Cell membrane; Multi-pass membrane protein. Cell membrane; Lipid-anchor. Note=Constitutively associated with membrane rafts.

### Tissue Location

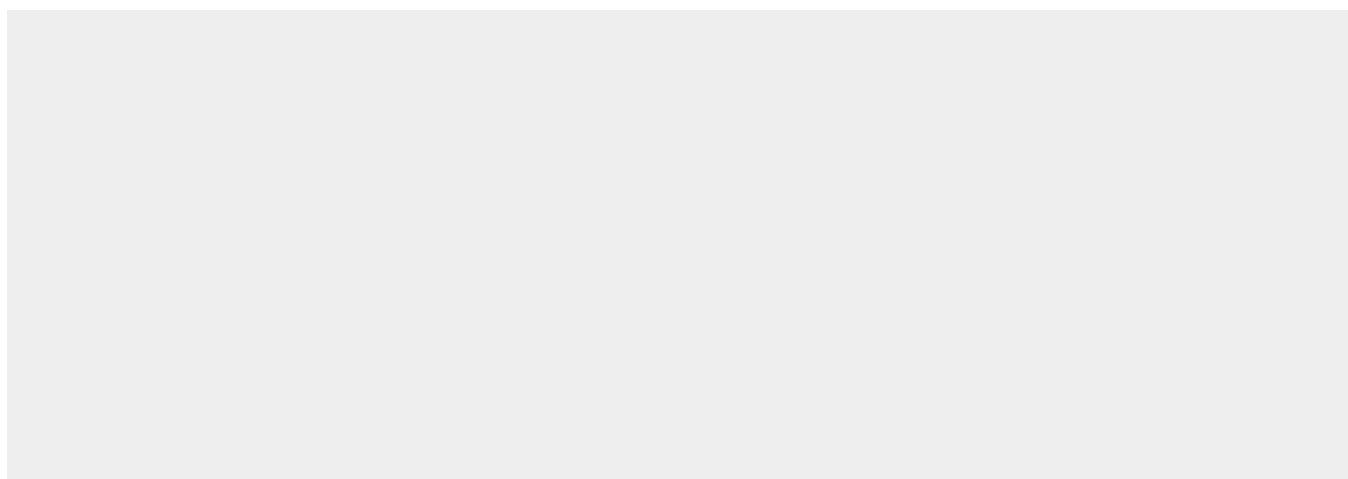
Expressed on B-cells.

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

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

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



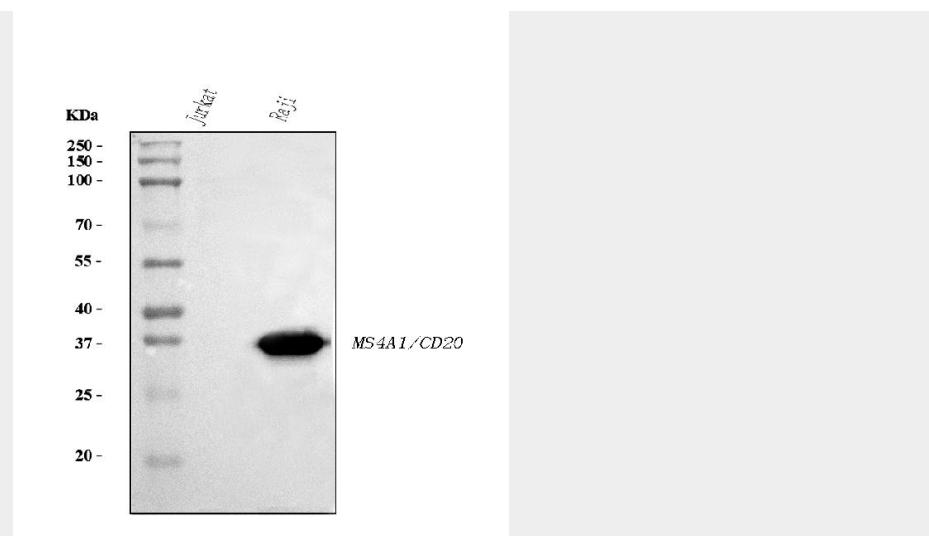


Figure 1. Western blot analysis of CD20 using anti-CD20 antibody (M03780-5). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

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  $\mu$ g/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.

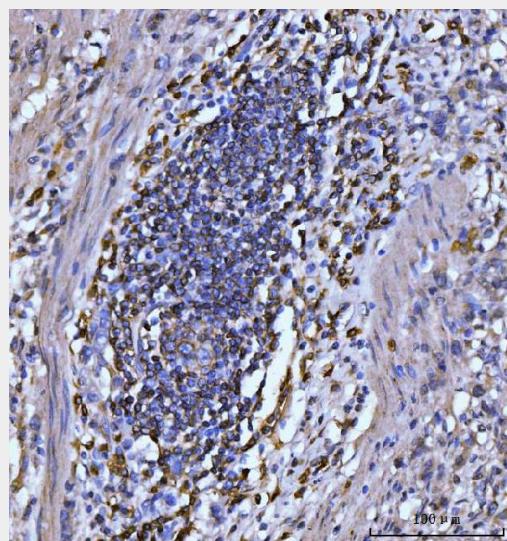


Figure 2. IHC analysis of CD20 using anti-CD20 antibody (M03780-5).

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  $\mu$ g/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.

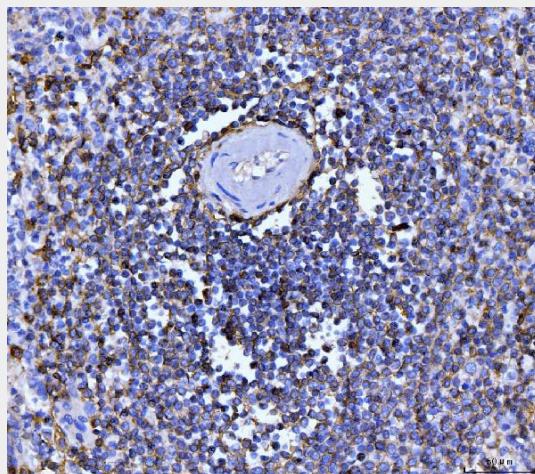


Figure 3. IHC analysis of CD20 using anti-CD20 antibody (M03780-5). CD20 was detected in a paraffin-embedded section of human ileal rupture tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2  $\mu$ g/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.

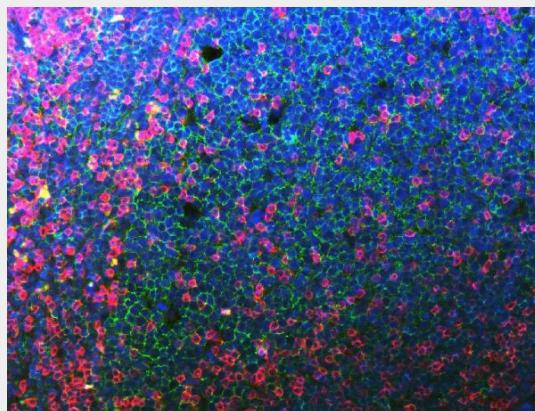


Figure 4. IF analysis of CD3E and CD20 using anti-CD3E antibody (PB9093) and anti-CD20 antibody (M03780-5).

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  $\mu$ g/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.

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