

Anti-CD20 [18B12] Standard Size Ab01110-2.3

This antibody was created using our proprietary Fc Silent™ engineered Fc domain containing key point mutations that abrogate binding to Fc gamma receptors.

This reformatted mouse antibody was made using the variable domain sequences of the original Mouse IgG1 format, for improved compatibility with existing reagents, assays and techniques.

Isotype and Format: Mouse IgG2a, Fc Silent™, Kappa

Clone Number: 18B12

Alternative Name(s) of Target: Ly-44; B-cell differentiation antigen Ly-44; B-lymphocyte antigen CD20; CD20; CD20 antigen; Lymphocyte antigen 44; Membrane-spanning 4-domains subfamily A member 1; membrane-spanning 4-domains, subfamily A, member 2

UniProt Accession Number of Target Protein: P19437

Published Application(s): depleting, functional assays, WB, FC, IF

Published Species Reactivity: Mouse

Immunogen: This antibody was generated by immunizing CD20^{-/-} mice with CD20-transfected cell lines (300.18 and 70Z3) and CD20-peptide-keyhole limpet hemocyanin conjugate.

Specificity: This antibody is specific for murine CD20, which is a cell surface 33-37 (depending on the degree of phosphorylation) kDa non-glycosylated surface phosphoprotein expressed on mature and most malignant B cells, but not stem cells or plasma cells. Low number of the CD20 has been also detected on a subpopulation of T lymphocytes and it can be expressed on follicular dendritic cells. Its expression on B cells is synchronous with the expression of surface IgM. CD20 regulates transmembrane calcium conductance (probably functioning as a component of store-operated calcium channel), cell cycle progression and B-cell proliferation. CD20 serves as a useful target for antibody-mediated therapeutic depletion of B cells, as it is expressed at high levels on most B-cell malignancies, but does not become internalized or shed from the plasma membrane following mAb treatment.

Application Notes: In the original publication, this antibody was used in FACS and in vivo functional assays to examine how B cell depletion affects autoimmunity (Ahuja et al., 2007). In other studies, this antibody has been used mainly in FACS, immunofluorescence, and various in vitro and in vivo functional experiments. More recent works employing this antibody have shown, for instance, that enhanced phagocytosis of circulating B cells by Kupffer cells represents an important in vivo mechanism for improved activity of glycoengineered anti-CD20 mAbs (Grandjean et al., 2016), that B lymphocytes limit senescence-driven fibrosis resolution and favor hepatocarcinogenesis in mouse liver injury (Faggioli et al.,

2017), and that B cells inhibit the antitumor immunity against an established murine fibrosarcoma (Maglioco et al., 2017).

Antibody First Published in: Ahuja et al. Depletion of B cells in murine lupus: efficacy and resistance. J Immunol. 2007 Sep 1;179(5):3351-61 [PMID:17709552](#)

Note on publication: Describe the original generation of this antibody and its in vivo application to better understand how B cell depletion affects autoimmunity.

Product Form

Size: 200 µg Purified antibody.

Purification: Protein A affinity purified

Supplied In: PBS with 0.02% Proclin 300.

Storage Recommendation: Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

Concentration: 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.