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CD19 Rabbit pAb

Catalog # AP99150

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P25918
Other Accession	P25918
Reactivity	Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	60149
Physical State	Liquid
Immunogen	Recombinant mouse CD19 protein
Epitope Specificity	19-287/547
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the selectin/LECAM family. Contains 2 Ig-like C2-type (immunoglobulin-like) domains.
SUBUNIT	Forms a complex with CD21, CD81 and CD225 in the membrane of mature B-cells. Interacts with VAV. Interacts with GRB2 and SOS when phosphorylated on Tyr-348 and/or Tyr-378. Interacts with PLCG2 when phosphorylated on Tyr-409. Interacts with LYN.
Post-translational modifications	Phosphorylated on serine and threonine upon DNA damage, probably by ATM or ATR. Phosphorylated on tyrosine following B-cell activation. Phosphorylated on tyrosine residues by LYN.
DISEASE	Defects in CD19 are the cause of immunodeficiency common variable type 3 (CVID3) [MIM:613493]; also called antibody deficiency due to CD19 defect. CVID3 is a primary immunodeficiency characterized by antibody deficiency, hypogammaglobulinemia, recurrent bacterial infections and an inability to mount an antibody response to antigen. The defect results from a failure of B-cell differentiation and impaired secretion of immunoglobulins; the numbers of circulating B-cells is usually in the normal range, but can be low.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the immunoglobulin gene superfamily. Expression of this cell surface protein is restricted to B cell lymphocytes. This protein is a reliable marker for pre-B cells but its expression diminishes during terminal B cell differentiation in antibody secreting plasma cells. The protein has two N-terminal extracellular Ig-like domains separated by a non-Ig-like domain, a hydrophobic transmembrane domain, and a large C-terminal cytoplasmic domain. This protein forms a complex with several membrane proteins including complement receptor type 2 (CD21) and tetraspanin (CD81) and this complex reduces the threshold for antigen-initiated B cell activation. Activation of this B-cell antigen receptor complex activates the phosphatidylinositol 3-kinase signalling pathway and the subsequent release of intracellular stores of calcium ions. This protein is a target of chimeric antigen receptor (CAR) T-cells used in the treatment of lymphoblastic leukemia. Mutations in this gene are associated with the

disease common variable immunodeficiency 3 (CVID3) which results in a failure of B-cell differentiation and impaired secretion of immunoglobulins. CVID3 is characterized by hypogammaglobulinemia, an inability to mount an antibody response to antigen, and recurrent bacterial infections. Alternative splicing results in multiple transcript variants encoding distinct isoforms. [provided by RefSeq, Jul 2020]

Additional Information

Gene ID	12478
Other Names	B4; CVID3; CD19_HUMAN; CD19; B-lymphocyte surface antigen B4; Differentiation antigen CD19; T-cell surface antigen Leu-12; CD19_MOUSE; CD19 molecule; CD19 antigen
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	Cd19
Function	Functions as a coreceptor for the B-cell antigen receptor complex (BCR) on B-lymphocytes. Decreases the threshold for activation of downstream signaling pathways and for triggering B-cell responses to antigens (By similarity). Activates signaling pathways that lead to the activation of phosphatidylinositol 3-kinase and the mobilization of intracellular Ca(2+) stores (PubMed:12387743, PubMed:20101619, PubMed:9382888). Is not required for early steps during B cell differentiation in the blood marrow (PubMed:7542548, PubMed:7543183, PubMed:9317126). Required for normal differentiation of B-1 cells (PubMed:12387743, PubMed:7542548, PubMed:7543183). Required for normal B cell differentiation and proliferation in response to antigen challenges (PubMed:12387743, PubMed:7542548, PubMed:9317126). Required for normal levels of serum immunoglobulins, and for production of high- affinity antibodies in response to antigen challenge (PubMed:12387743, PubMed:7542548, PubMed:7543183).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Membrane raft; Single-pass type I membrane protein
Tissue Location	Detected on B cells in spleen, bone marrow, thymus and lymph nodes (PubMed:12387743, PubMed:20101619, PubMed:7542548) Detected on peripheral blood lymphocytes (at protein level) (PubMed:7543183).

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