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CD20 Antibody [Clone B9E9]

Purified Mouse Monoclonal Antibody
Catalog # AH10076

Product Information

Application	FC
Primary Accession	P11836
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2a, kappa
Clone Names	B9E9
Calculated MW	33077

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
Target/Specificity	Lymphoblastoid cell line Daudi
Application Note	Flow Cytometry 2.5ul (0.5ug) per test per one million cells.
Format	0.5 ml at 200ug/ml; Conjugated to AF488
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	CD20 Antibody [Clone B9E9] is for research use only and not for use in diagnostic or therapeutic procedures.

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

Recognizes a protein of 33-37kDa, identified as CD20 (Workshop V; Code CD20.12). B9E9 recognizes extracellular domain of CD20. The epitope is similar to or identical to that recognized by other CD20 antibodies including Leu-16 and B1. This MAb can be used for immunophenotyping of leukemia and malignant cells, B lymphocyte detection in peripheral blood, B cell localization in tissues and B lymphocyte purification by immunosorbent methods. CD20 is a non-Ig differentiation antigen of B-cells and its expression is restricted to normal and neoplastic B-cells, being absent from all other leukocytes and tissues. CD20 is expressed by pre B-cells and persists during all stages of B-cell maturation but is lost upon terminal differentiation into plasma cells. Protein passes through the membrane 4 times with both ends in cytoplasm and exposes one short and one longer loop to the external environment. CD20 is not glycosylated in resting B cells and its cytoplasmic domains are differentially phosphorylated upon activation. It acts as a calcium channel involved in B-cell activation and cell cycle progression.

References

1. Schlossman S, et al. (eds). Leukocyte Typing V, Oxford University Press, Oxford, p511-515, 1995.
2. Tedder TF and Schlossman SF. Phosphorylation of the B1 (CD20) molecule by normal and malignant human B lymphocytes. J Biol Chem 1988, 263(20):10009-10015.
3. Bubien JK et al. Transfection of the CD20 cell surface molecule into ectopic cell types generates a Ca2+ conductance found constitutively in B lymphocytes. J Cell Biol 1993, 121(5):1121-1132.
4. Tedder TF and Engel P. CD20: a regulator of cell-cycle progression of B lymphocytes. Immunol Today 1994, 15(9):450-454.
5. Kanzaki M et al. Expression of calcium-permeable cation channel CD20 accelerates progression through the G1 phase in Balb/c 3T3 cells. J Biol Chem 1995, 270(22):13099-13104.

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