

Recombinant Human MS4A1 full length protein, His-tagged(Nanodisc)

Cat. No. MS4A1-3929H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human MS4A1 full length protein(NP_068769.2)(Met 1 - Pro 297), fused to His tag, was expressed in HEK293.
Species	Human
Source	HEK293
ProteinLength	Met 1 - Pro 297
Description	B-lymphocyte antigen CD20 is also known as B-lymphocyte surface antigen B1, Leukocyte surface antigen Leu-16, Membrane-spanning 4-domains subfamily A member 1 and 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. CD20 is expressed on all stages of B cell development except the first and last; it is present from late pro-B cells through memory cells, but not on either early pro-B cells or plasma blasts and plasma cells. It is found on B-cell lymphomas, hairy cell leukemia, B-cell chronic lymphocytic leukemia, and melanoma cancer stem cells. The protein has no known natural ligand and its function is to enable optimal B-cell immune response, specifically against T-independent antigens. It is suspected that it acts as a calcium channel in the cell membrane. CD20 / MS4A1 is the target of the monoclonal antibodies (mAb) rituximab, Ibritumomab tiuxetan, and tositumomab, which are all active agents in the treatment of all B cell lymphomas and leukemias. Defects in

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CD20 / MS4A1 are the cause of immunodeficiency common variable type 5 (CVID5); also called antibody deficiency due to CD20 defect. CVID5 is a primary immunodeficiency characterized by antibody deficiency, hypogammaglobulinemia, recurrent bacterial infections and an inability to mount an antibody response to antigen.

Form

Delivered as bulk protein in a 0.2 µm filtered solution of 20 mM HEPES, 150 mM NaCl, pH7.5 with trehalose as protectant.

Molecular Mass

The CD20 carries a polyhistidine tag at the C-terminus with calculated MW of 35.2 kDa and migrates as 40 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation. The membrane scaffold protein MSP1D1 has calculated MW of 24.7 kDa, and it migrates as 25 kDa under reducing (R) condition (SDS-PAGE) .

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Purity

>85% as determined by SDS-PAGE.

Storage

This product is stable after storage at:
The product MUST be stored at -70°C or lower upon receipt;
-70°C for 3 months under sterile conditions.

Reconstitution

It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4°C before opening to recover the entire contents.

GENE INFORMATION

Gene Name

MS4A1 membrane-spanning 4-domains, subfamily A, member 1 [Homo sapiens]

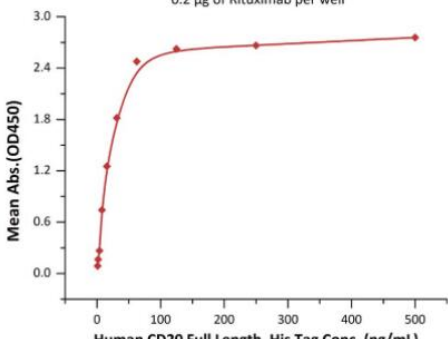
Official Symbol

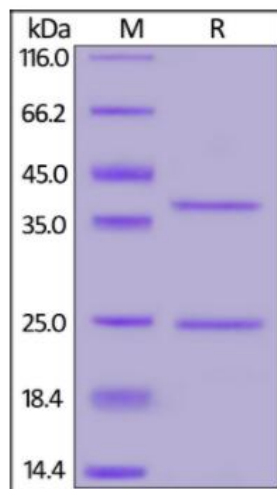
MS4A1

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Synonyms	MS4A1; CD20; MS4A-1																				
Gene ID	931																				
mRNA Refseq	NM_021950.3																				
Protein Refseq	NP_068769.2																				
MIM	112210																				
UniProt ID	P11836																				
Bioactivity-ELISA	 Human CD20 Full Length, His Tag ELISA 0.2 µg of Rituximab per well <table border="1"> <caption>Approximate data points from the ELISA graph</caption> <thead> <tr> <th>Human CD20 Full Length, His Tag Conc. (ng/mL)</th> <th>Mean Abs. (OD450)</th> </tr> </thead> <tbody> <tr><td>0</td><td>0.0</td></tr> <tr><td>10</td><td>0.2</td></tr> <tr><td>20</td><td>0.4</td></tr> <tr><td>50</td><td>0.8</td></tr> <tr><td>100</td><td>1.8</td></tr> <tr><td>200</td><td>2.4</td></tr> <tr><td>300</td><td>2.6</td></tr> <tr><td>400</td><td>2.7</td></tr> <tr><td>500</td><td>2.8</td></tr> </tbody> </table> Immobilized Rituximab at 2 µg/mL (100 µL/well) can bind Human CD20 Full Length, His Tag with a linear range of 1-63 ng/mL.	Human CD20 Full Length, His Tag Conc. (ng/mL)	Mean Abs. (OD450)	0	0.0	10	0.2	20	0.4	50	0.8	100	1.8	200	2.4	300	2.6	400	2.7	500	2.8
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SDS-PAGE

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