

# 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 proteinMSP1D1has 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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<b>Synonyms</b>	MS4A1; CD20; MS4A-1
<b>Gene ID</b>	931
<b>mRNA Refseq</b>	NM_021950.3
<b>Protein Refseq</b>	NP_068769.2
<b>MIM</b>	112210
<b>UniProt ID</b>	P11836

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