Cynomolgus CD20 / MS4A1 Full Length Protein, His Tag (Detergent)

Catalog # CD0-C52H8

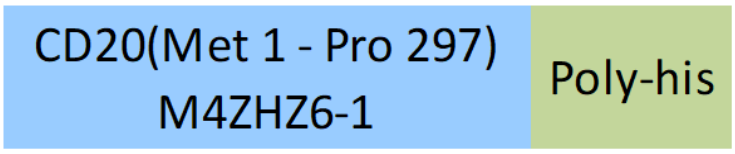
Synonym

MS4A1, CD20, MS4A-1

Source

Cynomolgus CD20 Full Length, His Tag(CD0-C52H8) is expressed from human 293 cells (HEK293). It contains AA Met 1 - Pro 297 (Accession # M4ZHZ6-1). Predicted N-terminus: Met 1

Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 35.2 kDa. The protein migrates as 36-38 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method / rFC method.

Purity

>90% as determined by SDS-PAGE.

Formulation

This product is not suitable for cell based experiments due to cytotoxicity of DDM.
DDM and CHS are INDISPENSABLE to keep membrane protein soluble and active, under no circumstance should you remove DDM and CHS.
DDM/CHS buffer (DC-11) is sold separately and not included in protein, and please contact us if you need the buffer.
If glycerol is not compatible to your application, remove glycerol just before immediate experiment, and NEVER store glycerol-free protein solution.

Supplied as 0.2 μm filtered solution in 50 mM HEPES, 150 mM NaCl, DDM, CHS, pH7.5 with glycerol as protectant.

Contact us for customized product form or formulation.

Shipping

This product is supplied and shipped with dry ice, please inquire the shipping cost.

Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

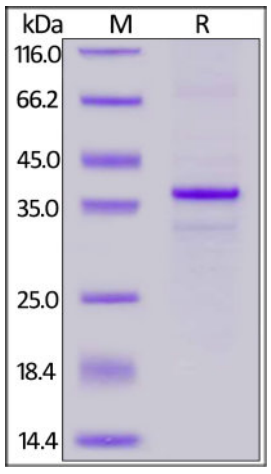
Please avoid repeated freeze-thaw cycles.

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.

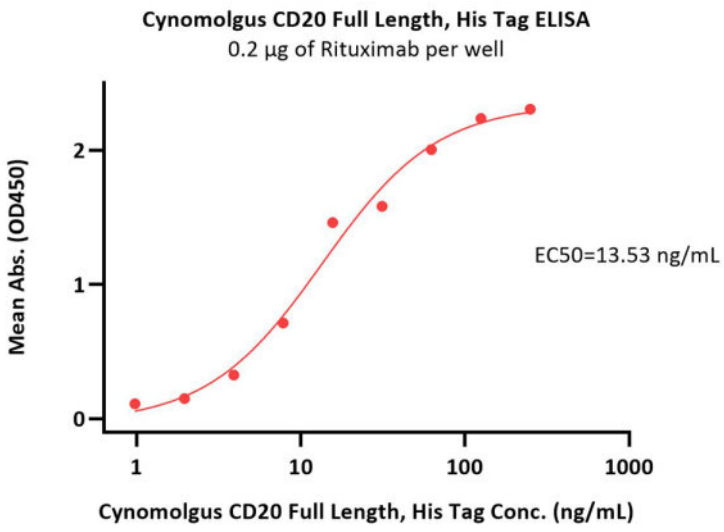
*The DDM/CHS buffer (Cat. No. DC-11) is sold separately and not included in protein, you can follow this link for product information.

SDS-PAGE

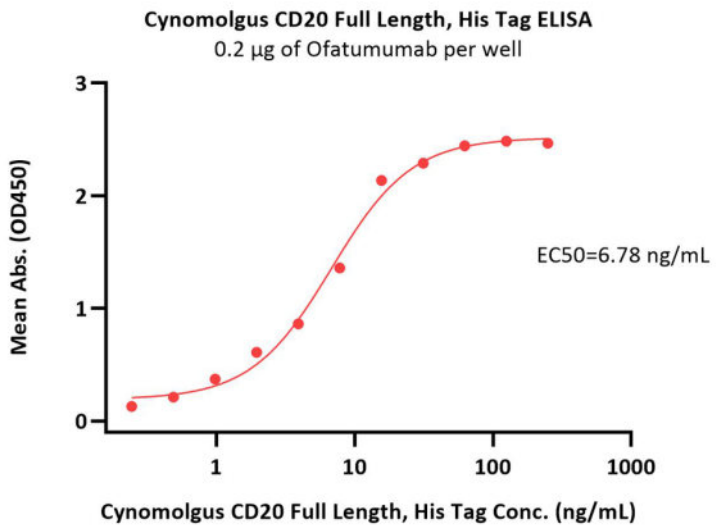


Cynomolgus CD20 Full Length, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

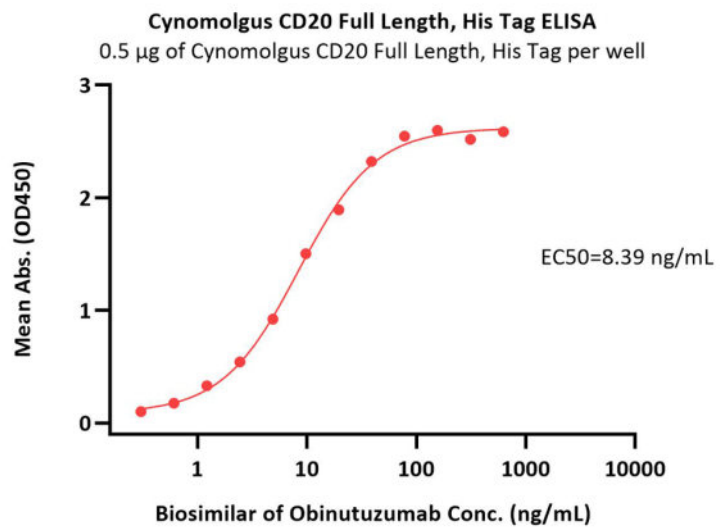
Bioactivity-ELISA



Immobilized Rituximab at 2 μg/mL (100 μL/well) can bind Cynomolgus CD20 Full Length, His Tag (Cat. No. CD0-C52H8) with a linear range of 1-31 ng/mL (QC tested).

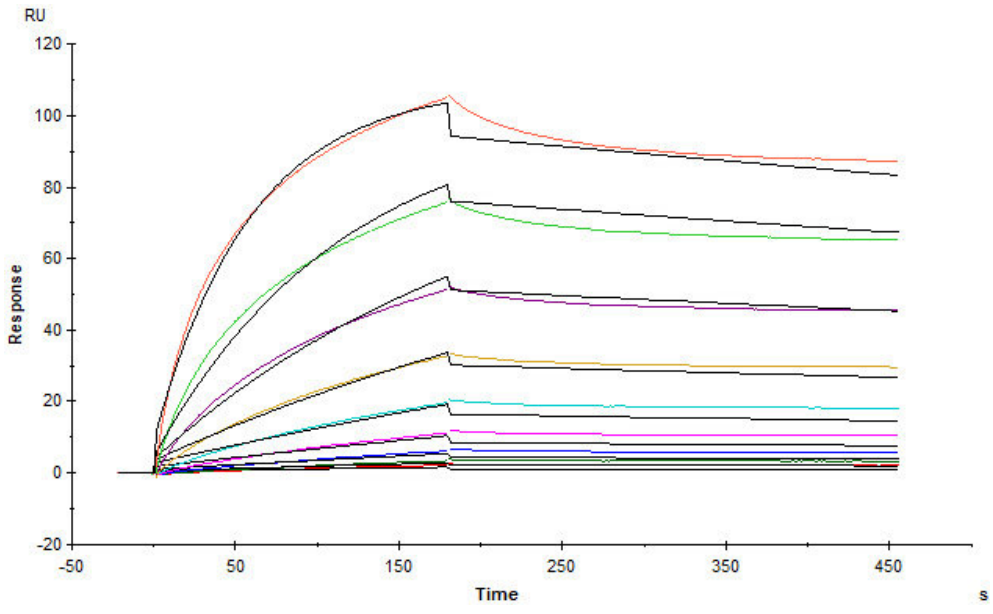


Immobilized Ofatumumab at 2 μg/mL (100 μL/well) can bind Cynomolgus CD20 Full Length, His Tag (Cat. No. CD0-C52H8) with a linear range of 0.2-16 ng/mL (QC tested).

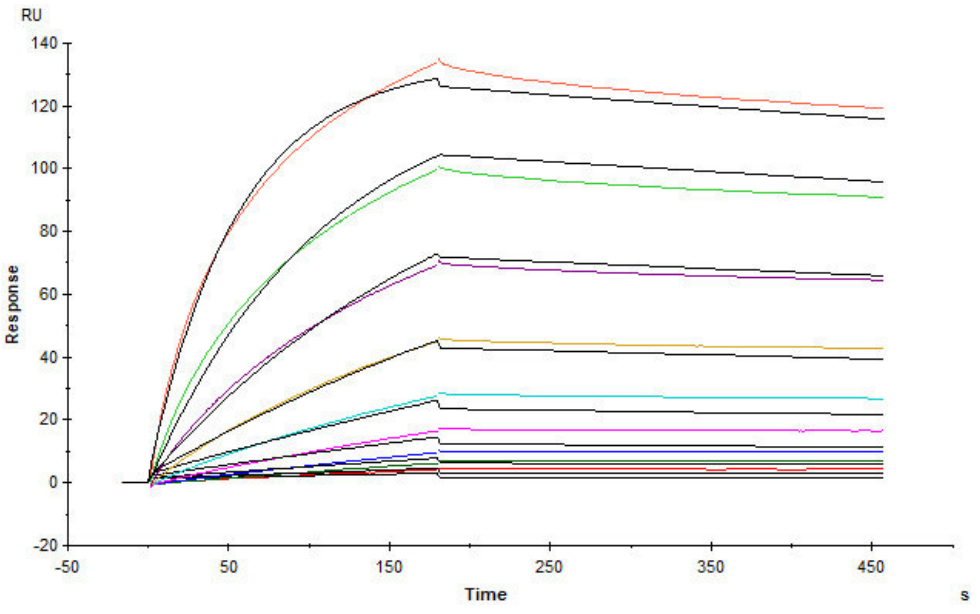


Immobilized Cynomolgus CD20 Full Length, His Tag (Cat. No. CD0-C52H8) at 5 μg/mL (100 μL/well) can bind Biosimilar of Obinutuzumab with a linear range of 0.3-10 ng/mL (Routinely tested).

Bioactivity-SPR



Rituximab captured on CM5 chip via anti-human IgG Fc antibody can bind Cynomolgus CD20 Full Length, His Tag (Cat. No. CD0-C52H8) with an



Ofatumumab captured on CM5 chip via anti-human IgG Fc antibody can bind Cynomolgus CD20 Full Length, His Tag (Cat. No. CD0-C52H8) with an

affinity constant of 5.48 nM as determined in a SPR assay (in presence of DDM and CHS) (Biacore T200) (Routinely tested).

affinity constant of 3.51 nM as determined in a SPR assay (in presence of DDM and CHS) (Biacore T200) (Routinely tested).

Background

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 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.