

Ferret CD20 / MS4A-1 Protein (His Tag)

Catalog Number: 60004-F08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

MS4A1

Protein Construction:

A DNA sequence encoding the C-terminal cytoplasmic domain of Ferret (*Mustela putorius furo*) CD20 (Glu 213-Pro 297) was expressed, with a polyhistidine tag at the C-terminus and a signal peptide at the N-terminus.

Source: Ferret

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Glu 213

Molecular Mass:

The recombinant Ferret CD20 consists of 96 amino acids and has a calculated molecular mass of 11.3 kDa. The apparent molecular mass of the recombinant protein is approximately 25 kDa in SDS-PAGE under reducing conditions due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

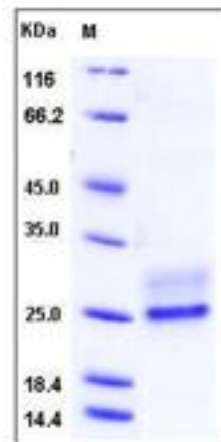
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

CD20 (membrane-spanning 4-domains, subfamily A, member 1), also known as MS4A1, is a member of the membrane-spanning 4A gene family. Members of this nascent protein family are characterized by common structural features and similar intron/exon splice boundaries and display unique expression patterns among hematopoietic cells and nonlymphoid tissues. CD20 / MS4A1 is expressed on all stages of B cell development except the first and last. CD20 / MS4A1 is present from pre-pre B cells through memory cells, but not on either pro-B cells or plasma cells. It is a B-lymphocyte surface molecule which plays a role in the development and differentiation of B-cells into plasma cells. CD20 / MS4A1 may be involved in the regulation of B-cell activation and proliferation. Defects in CD20 / MS4A1 are the cause of immunodeficiency common variable type 5 (CVID5). CVID5 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.

References

1. Tedder TF, *et al.* (1988) Isolation and structure of a cDNA encoding the B1 (CD20) cell-surface antigen of human B lymphocytes. *Proc Natl Acad Sci.* 85(1): 208-12.
2. Cragg MS, *et al.* (2005) The biology of CD20 and its potential as a target for mAb therapy. *Curr Dir Autoimmun.* 8: 140-74.
3. Polyak MJ, *et al.* (2003) A cholesterol-dependent CD20 epitope detected by the FMC7 antibody. *Leukemia.* 17(7): 1384-9.

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