Data Sheet (Cat.No.TMPY-05271)

TargetMol

CD20 Protein, Human, Recombinant (TrxA), Biotinylated

General Information

Synonyms:	MS4A2;CD20;LEU-16;CVID5;membrane-spanning 4-domains, subfamily A, member 1;MS4A1;B1;Bp35;S7
Protein Construction:	A DNA sequence encoding the human MS4A1 (NP_068769.2) (Ile141-Ser188) was expressed with a TrxA tag at the N-terminus. The purified protein was biotinylated in vitro. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P11836
Molecular Weight:	23.9 kDa (predicted)

QC Testing

Biological Activity:	1.Using the Octet RED System, the affinity constant (Kd) of CD20 Protein, Human, Recombinant (TrxA Tag), Biotinylated bound Mabthera was 0.04 μM. 2.Loaded Anti-Human CD20 antibody, human IgG1 on ProA Biosensor, can bind Recombinant Human CD20 Protein, TrxA Tag, Biotinylated with an affinity constant of 14.6 nM as determined in BLI assay (Routinely tested).
Purity:	> 80 % as determined by SDS-PAGE.
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

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 in 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 that plays a role in the development and differentiation of B-cells into plasma cells. CD20 / MS4A1may 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 are usually in the normal range but can be very low.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

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.

Cragg MS, et al. (2005) The biology of CD20 and its potential as a target for mAb therapy. Curr Dir Autoimmun. 8: 140-74..

Polyak MJ,et al.(2003) A cholesterol-dependent CD20 epitope detected by the FMC7 antibody. Leukemia. 17(7): 1384-9.