

Synonym

CD19,B4,CVID3,MGC12802

Source

MABSol® Biotinylated Human CD19, Fc Tag, primary amine labeling (CD9-H8259) is expressed from human HEK293 cells. It contains AA Pro 20 - Lys 291 (Accession # P15391-1). It is the biotinylated form of Human CD19, Fc Tag (Cat. No. CD9-H5259).

Predicted N-terminus: Pro 20

Molecular Characterization

CD19(Pro 20 - Lys 291) P15391-1	Fc(Pro 100 - Lys 330) P01857
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This protein carries a human IgG1 Fc fragment at the C-terminus. The protein has a calculated MW of 56.3 kDa. The protein migrates as 60-90 kDa on a SDS-PAGE gel under reducing (R) condition due to glycosylation.

Biotinylation

The primary amines in the side chains of lysine residues and the N-terminus of the protein are conjugated with biotins using standard chemical labeling method. A standard biotin reagent (13.5 angstroms) is used in this product.

Biotin:Protein Ratio

The biotin to protein ratio is 3-4.5 as determined by the HABA assay.

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Purity

>95% as determined by reduced SDS-PAGE.

Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally trehalose is added as protectant before lyophilization.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

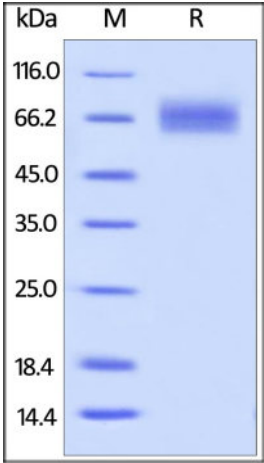
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

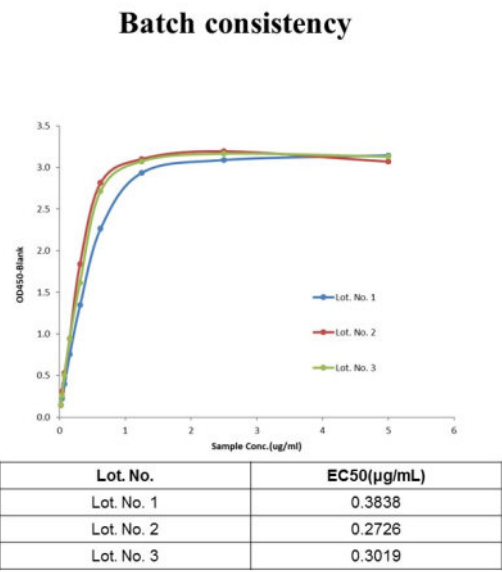
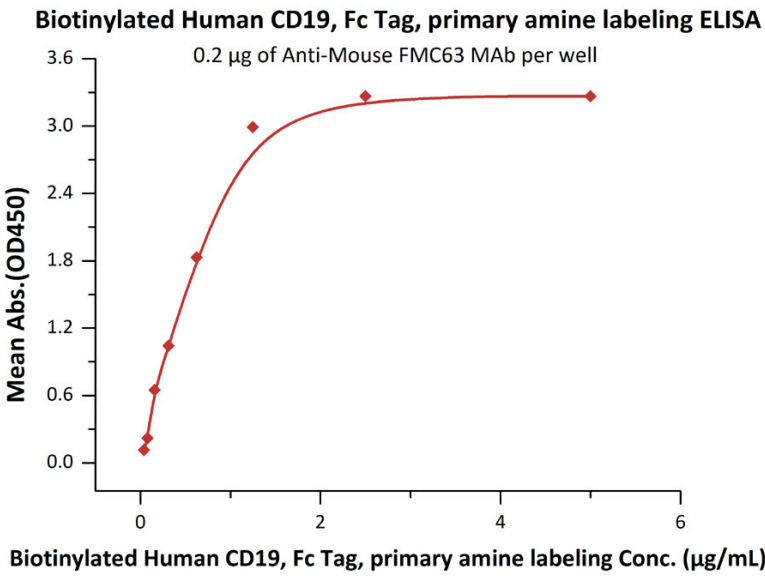
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



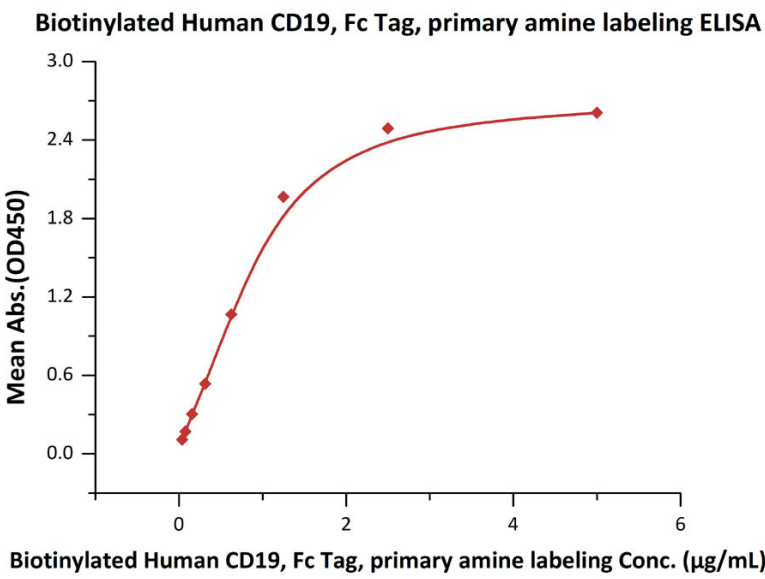
Biotinylated Human CD19, Fc Tag, primary amine labeling on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity-ELISA



Immobilized Anti-Mouse FMC63 MAb at 2 µg/mL (100 µL/well) can bind Biotinylated Human CD19, Fc Tag, primary amine labeling (Cat. No. [CD9-H8259](#)) with a linear range of 0.039-0.625 µg/mL (QC tested).

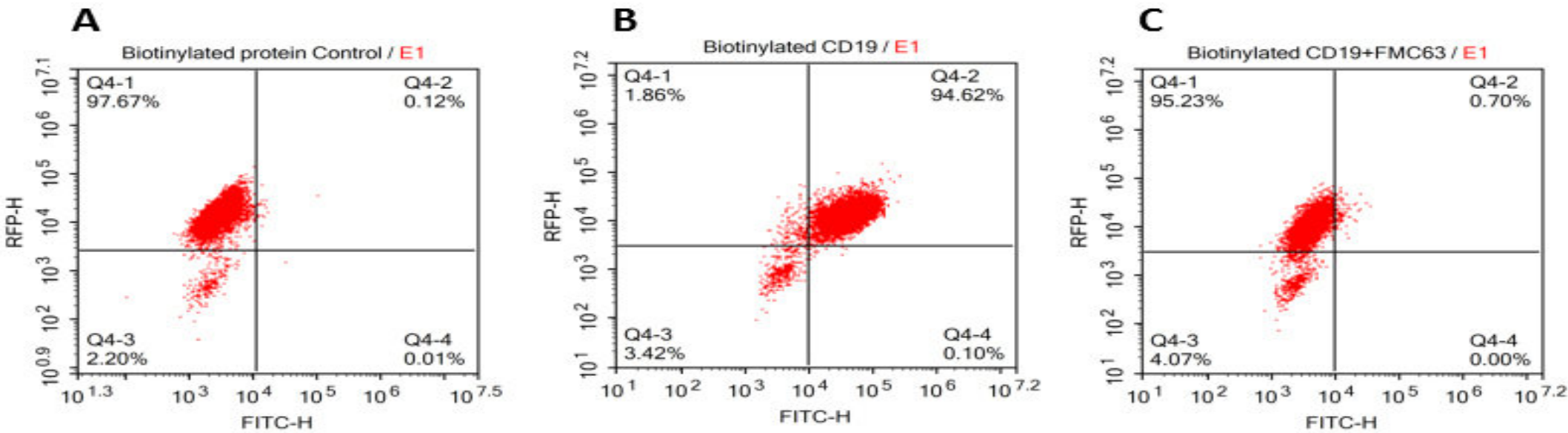
[Report](#)



Immobilized a series of concentration of Biotinylated Human CD19, Fc Tag, primary amine labeling (Cat. No. [CD9-H8259](#)) on streptavidin precoated (0.5 µg/well) plate, can bind FMC63 (Mouse IgG2a) 2 µg/mL (100 µL/well) with a linear range of 0.039-1.25 µg/mL (Routinely tested).

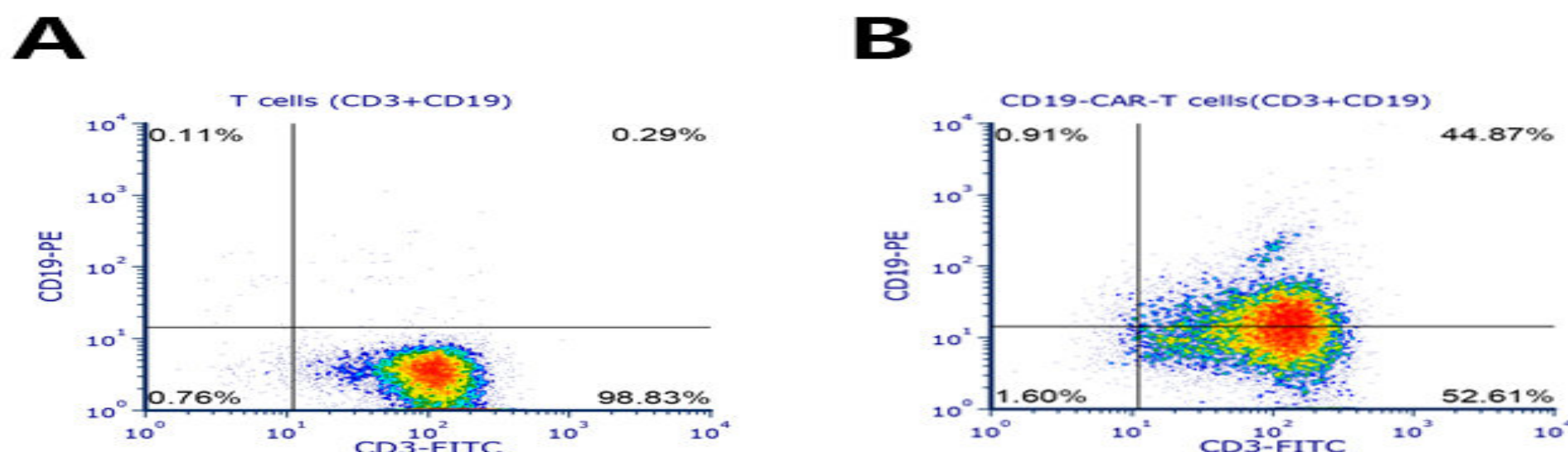
Evaluation of CAR expression

FACS Analysis of Anti-CD19 CAR Expression



293 cells were transfected with FCM63-scFv and RFP tag. 2e5 of the cells were first incubated with A. Biotinylated protein control. B. Biotinylated Human CD19, Fc Tag, primary amine labeling (Cat. No. CD9-H8259, 10 µg/mL). C. Biotinylated Human CD19, Fc Tag, primary amine labeling (Cat. No. CD9-H8259, 10 µg/mL) and FMC63 (Mouse Anti-CD19 antibody). FITC Streptavidin was used to analyse with FACS. RFP was used to evaluate CAR (FMC63-scFv) expression and FITC was used to evaluate the binding activity of Biotinylated Human CD19, Fc Tag, primary amine labeling (Cat. No. CD9-H8259) .

FACS Analysis of Anti-CD19 CAR Expression



Human T cells were lentivirally transduced with anti-CD19 CAR and cultured for 11 days. Eleven days post-transduction, 1e6 cells were stained for the expression of CD3 and anti-CD19 CAR with FITC Anti-human CD3 antibody and Biotinylated Human CD19, Fc Tag, primary amine labeling (Cat. No. CD9-H8259) followed by PE-conjugated streptavidin, respectively. A. Non-transduced T cells were used as a control for gating of CAR expression. (Data are kindly provided by Beijing Bowei Huaen Medical Technology Co. Ltd.)

Background

B-lymphocyte antigen CD19, is a single-pass type I membrane protein which contains two Ig-like C2-type (immunoglobulin-like) domains. CD19 is expressed on follicular dendritic cells and B cells. Upon activation, the cytoplasmic tail of CD19 becomes phosphorylated, which leads to binding by Src-family kinases and recruitment of PI-3 kinase. As on T cells, several surface molecules form the antigen receptor and form a complex on B lymphocytes. The (almost) B cell-specific CD19 phosphoglycoprotein is one of these molecules. The others are CD21 and CD81. These surface immunoglobulin (sIg)-associated molecules facilitate signal transduction. On living B cells, anti-immunoglobulin antibody mimicking exogenous antigen causes CD19 to bind to sIg and internalize with it. The reverse process has not been demonstrated, suggesting that formation of this receptor complex is antigen-induced. This molecular association has been confirmed by chemical studies. Mutations in CD19 are associated with severe immunodeficiency syndromes characterized by diminished antibody production. CD19 has been shown to interact with: CD81, CD82, Complement receptor 2, and VAV2.

References

- (1) [Pesando JM, et al., J. Exp. Med. 170 \(6\): 2159-64.](#)
- (2) [van Zelm MC, et al., 2006, N. Engl. J. Med. 354 \(18\): 1901-12.](#)
- (3) [Bradbury LE, et al., 1992, J. Immunol. 149 \(9\): 2841-50.](#)
- (4) [Horváth G, et al., 1998, J. Biol. Chem. 273 \(46\): 30537-43.](#)
- (5) [Imai T, et al., 1995, J. Immunol. 155 \(3\): 1229-39.](#)
- (6) [Doody GM, et al., 2000, EMBO J. 19 \(22\): 6173-84.](#)

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.