

Synonym

CD19,B4,CVID3,MGC12802

Source

Biotinylated Human CD19 (20-291), Fc,Avitag, premium grade(CD9-H82F6) is expressed from human 293 cells (HEK293). It contains AA Pro 20 - Lys 291 (Accession # [P15391-1](#)).

Predicted N-terminus: Pro

*It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.*

Molecular Characterization

CD19(Pro 20 - Lys 291) P15391-1	Fc(Pro 100 - Lys 330) P01857	Avi
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This protein carries a human IgG1 Fc tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 59.0 kDa. The protein migrates as 70-80 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Labeling

*Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.*

Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

Endotoxin

Less than 0.01 EU per µg by the LAL method / rFC method.

Sterility

Negative

Mycoplasma

Negative.

Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

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

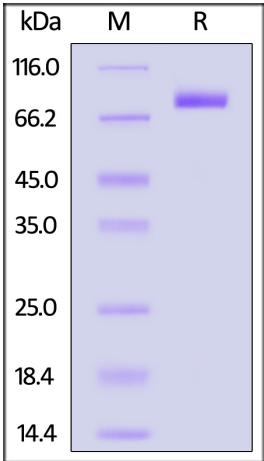
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

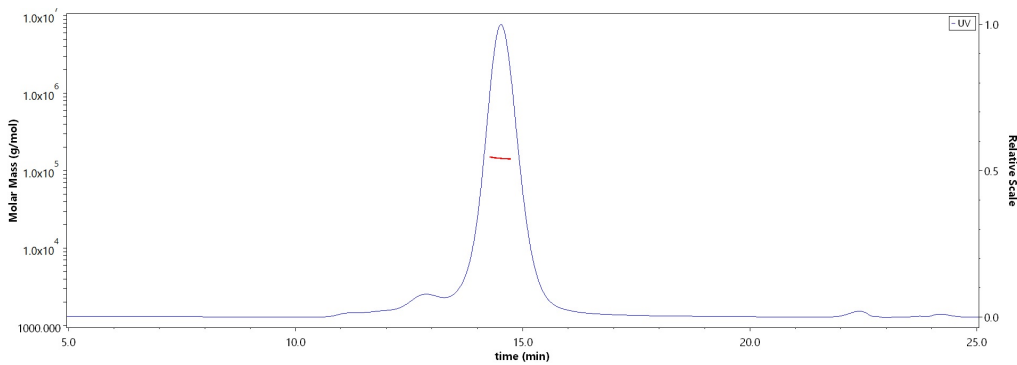
This product is stable after storage at:

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

SDS-PAGE



SEC-MALS



Biotinylated Human CD19 (20-291) Protein, Fc,Avitag™, premium grade

Catalog # CD9-H82F6

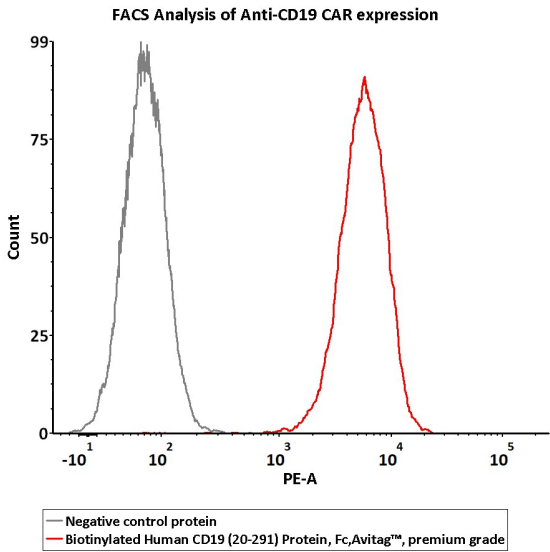


Biotinylated Human CD19 (20-291), Fc,Avitag, premium grade on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

The purity of Biotinylated Human CD19 (20-291), Fc,Avitag, premium grade (Cat. No. CD9-H82F6) is more than 90% and the molecular weight of this protein is around 130-160 kDa verified by SEC-MALS.

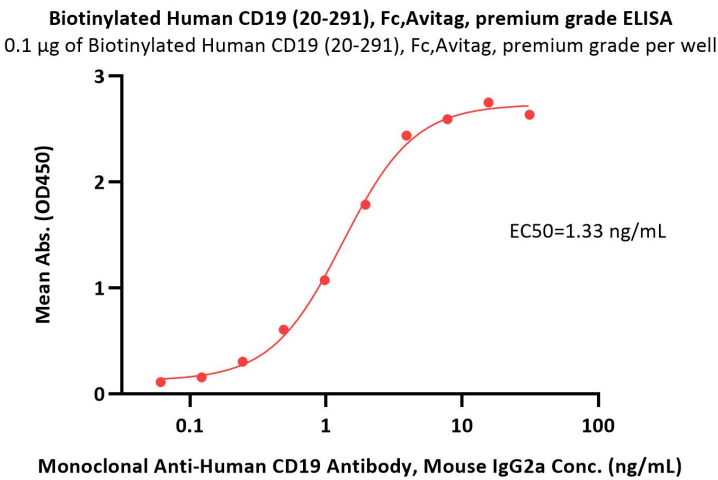
[Report](#)

Bioactivity-FACS



2e5 of anti-CD19 CAR-293 cells were stained with 100  $\mu$ L of 3  $\mu$ g/mL of Biotinylated Human CD19 (20-291), Fc,Avitag, premium grade (Cat. No. CD9-H82F6) and negative control protein respectively, washed and then followed by PE-SA and analyzed with FACS (QC tested).

Bioactivity-ELISA



Immobilized Biotinylated Human CD19 (20-291), Fc,Avitag, premium grade (Cat. No. CD9-H82F6) at 1  $\mu$ g/mL (100  $\mu$ L/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5  $\mu$ g/well) plate can bind Monoclonal Anti-Human CD19 Antibody, Mouse IgG2a with a linear range of 0.1-4 ng/mL (QC tested).

Background

B-lymphocyte antigen CD19 is also known as CD19 (Cluster of Differentiation 19), 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. In fact, it is present on B cells from earliest recognizable B-lineage cells during development to B-cell blasts but is lost on maturation to plasma cells. It primarily acts as a B cell co-receptor in conjunction with CD21 and CD81. 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



**Biotinylated Human CD19 (20-291) Protein, Fc,Avitag™, premium grade**

Catalog # CD9-H82F6



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.

