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

Catalog # CD9-H82F7

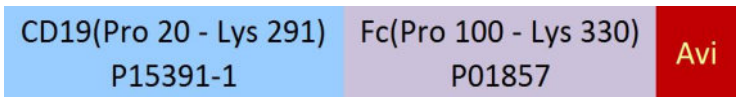
Synonym

CD19,B4,CVID3,MGC12802

Source

Biotinylated Human CD19 (20-291), Fc,Avitag (CD9-H82F7) is expressed from human 293 cells (HEK293). It contains AA Pro 20 - Lys 291 (Accession # P15391-1).
Predicted N-terminus: Pro 20

Molecular Characterization



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 58.9 kDa. The protein migrates as 65-80 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Biotinylation

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

Biotin:Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

Endotoxin

Less than 1.0 EU per μg by the LAL method.

Purity

>90% as determined by 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

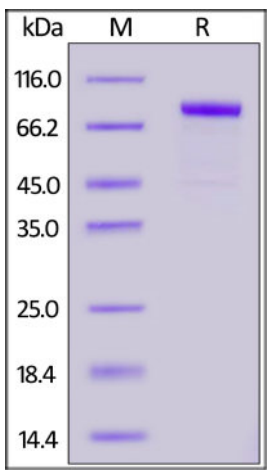
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

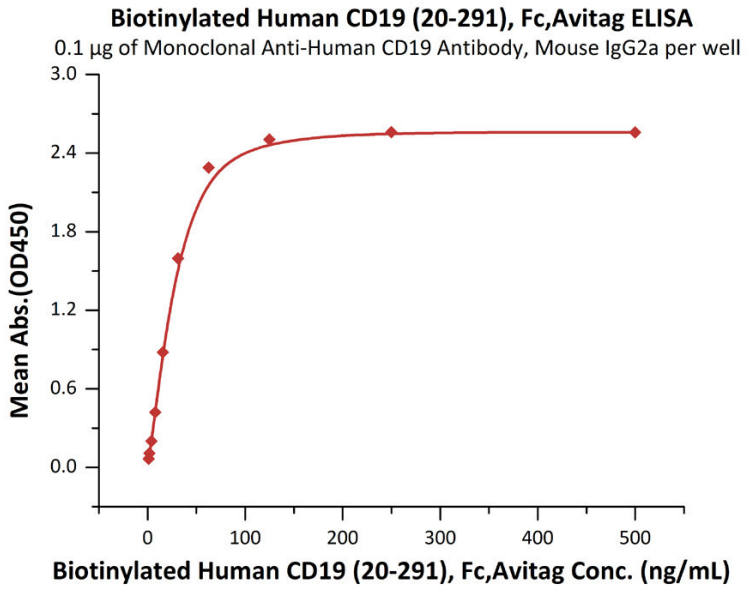
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



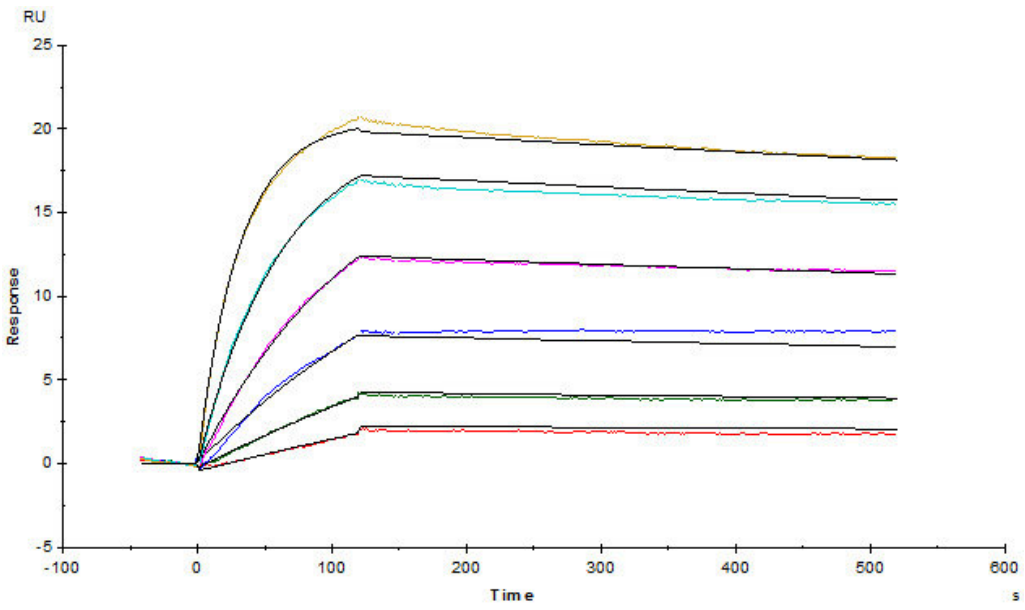
Biotinylated Human CD19 (20-291), Fc,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90%.

Bioactivity-ELISA



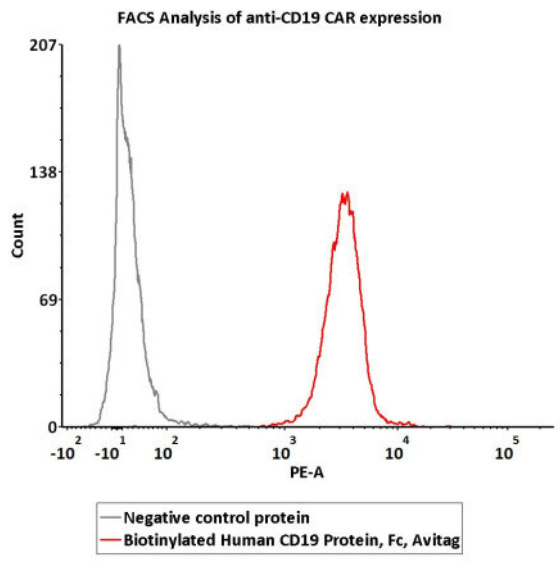
Immobilized Monoclonal Anti-Human CD19 Antibody, Mouse IgG2a at 1 μg/mL (100 μL/well) can bind Biotinylated Human CD19 (20-291), Fc,Avitag (Cat. No. CD9-H82F7) with a linear range of 1-63 ng/mL (QC tested).

Bioactivity-SPR



Biotinylated Human CD19 (20-291), Fc,Avitag (Cat. No. CD9-H82F7) captured on Biotin CAP - Series S sensor Chip can bind FMC63 MAb (mouse lgG2a) with an affinity constant of 0.177 nM as determined in a SPR assay (Biacore T200) (Routinely tested).

Bioactivity-FACS



2e5 of anti-CD19 CAR-293 cells were stained with 100 μL of 1 μg/mL of Biotinylated Human CD19 (20-291), Fc,Avitag (Cat. No. CD9-H82F7) and negative control protein respectively, washed and then followed by PE-SA and analyzed with FACS (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 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.

Clinical and Translational Updates

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