

### Synonym

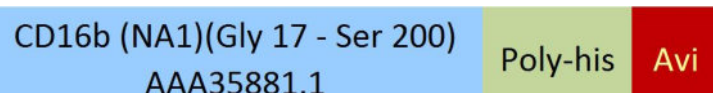
Fc gamma RIIIB / CD16b  
(NA1),FCGR3B,CD16B,FCG3B,FCGR3,FCG3,IGFR3

### Source

Biotinylated Human CD16b (NA1), His,Avitag (SPR & BLI verified) (CDB-H82E4) is expressed from human HEK293 cells. It contains AA Gly 17 - Ser 200 (Accession # AAA35881.1). The NA1 form of the CD16b differ with the NA2 form of CD16b in AA36, 65, 82, and 106. The NA1 form carries R36, N65, D82, and V106, while the NA2 form carries S36, S65, N82, and I106.

Predicted N-terminus: Gly 17

### Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus, followed by an Avi tag.

The protein has a calculated MW of 24.6 kDa. The protein migrates as 38-48 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

The biotin to protein ratio is *0.5-1* as determined by the HABA assay.

### Endotoxin

Less than 1.0 EU per µg by the LAL method.

### Purity

>95% 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

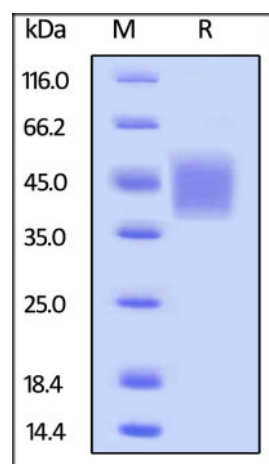
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

No activity loss was observed after storage at:

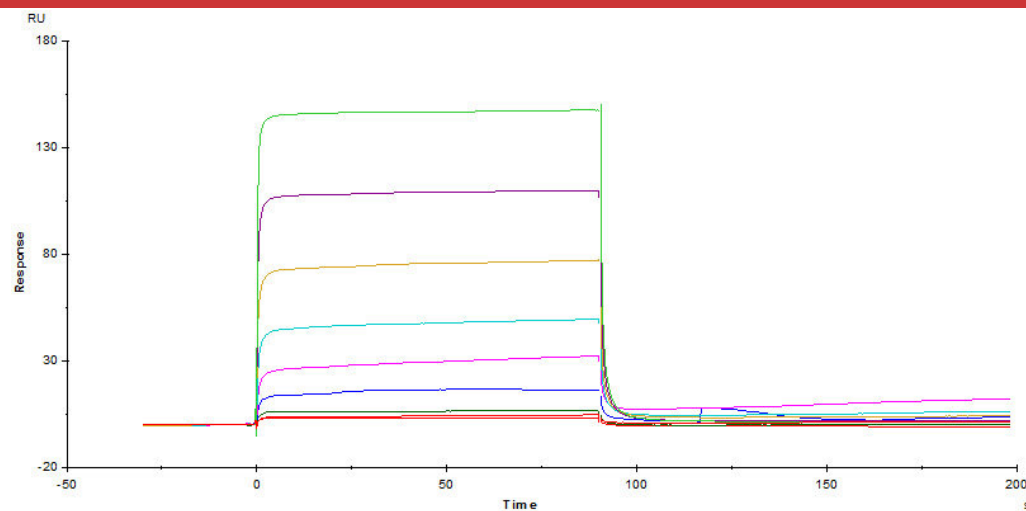
- 4-8°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

### SDS-PAGE

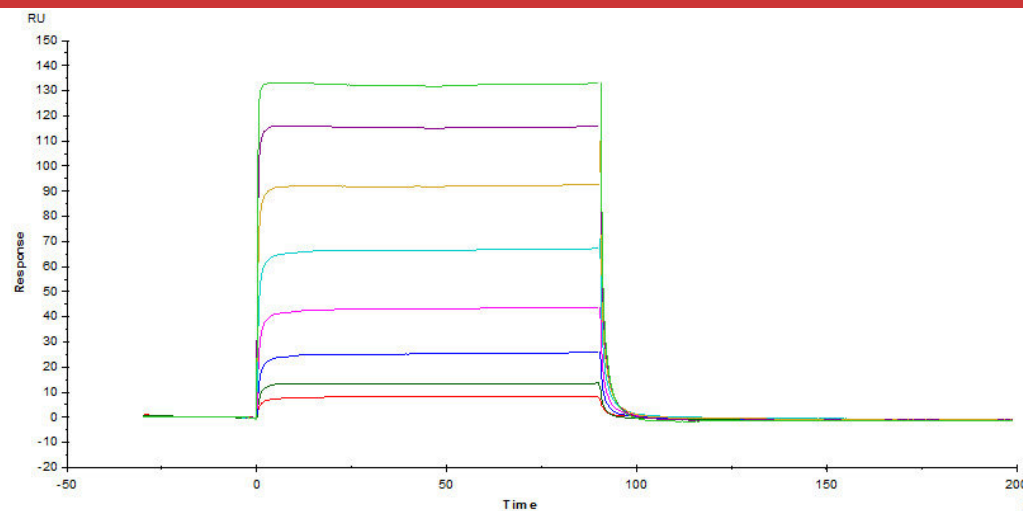


Biotinylated Human CD16b (NA1), His,Avitag (SPR & BLI verified) on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

### Bioactivity-SPR

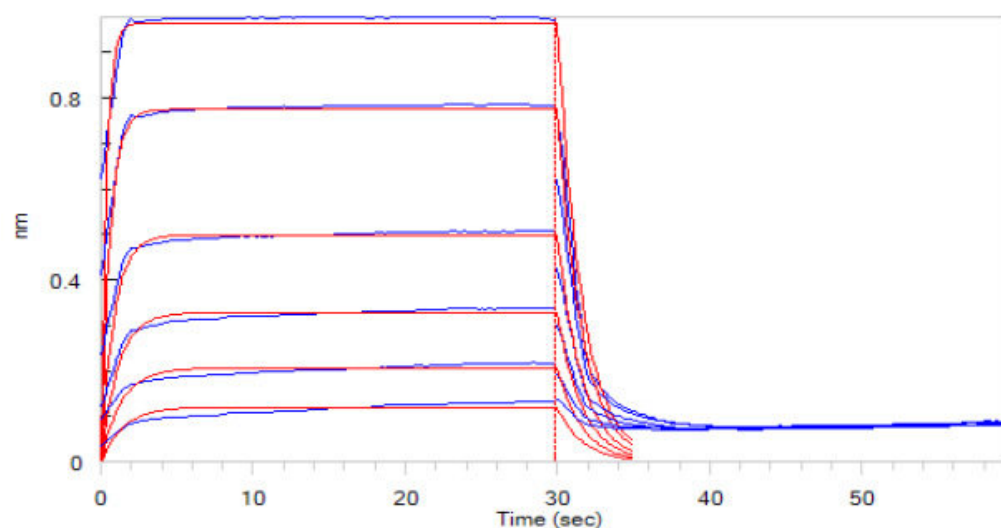


Biotinylated Human CD16b (NA1), His,Avitag (SPR & BLI verified) (Cat. No. CDB-H82E4) captured on Biotin CAP- Series S Sensor Chip can bind Herceptin with an affinity constant of 8.32  $\mu\text{M}$  as determined in a SPR assay (Biacore T200) (QC tested).



Immobilized Biotinylated Human CD16b (NA1), His,Avitag (SPR & BLI verified) (Cat. No. CDB-H82E4) on SA Chip, can bind Herceptin with an affinity constant of 3.31  $\mu\text{M}$  as determined in a SPR assay (Biacore T200) (Routinely tested).

### Bioactivity-BLI



Loaded Biotinylated Human CD16b (NA1), His,Avitag (SPR & BLI verified) (Cat. No. CDB-H82E4) on SA Biosensor, can bind Rituximab with an affinity constant of 7.7  $\mu\text{M}$  as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

### Background

CD16 is a low affinity Fc receptor, and has been identified as Fc receptors Fc $\gamma$ RIIIa (CD16a) and Fc $\gamma$ RIIIb (CD16b). These receptors bind to the Fc portion of IgG antibodies. CD16 encoded by two different highly homologous genes in a cell type-specific manner. CD16 is found on the surface of natural killer cells, neutrophil polymorphonuclear leukocytes, monocytes and macrophages. CD16B is also known as FCGR3B and FCG3B, is expressed specifically by polymorphonuclear leukocytes (neutrophils) and stimulated eosinophils. CD16B is the low affinity receptor for the Fc region of immunoglobulins gamma. FCGR3B binds complexed or aggregated IgG and also monomeric IgG. Contrary to III-A, FCG3B is not capable to mediate antibody-dependent cytotoxicity and phagocytosis. CD16B may serve as a trap for immune complexes in the peripheral circulation which does not activate neutrophils.

### References

- (1) [Ravetch J.V., et al., 1989, J. Exp. Med. 170:481-497.](#)
- (2) [Gessner J.E., et al., 1995, J. Biol. Chem. 270:1350-1361.](#)
- (3) [Bux J., et al., 1997, Blood 89:1027-1034.](#)

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.