



## Synonym

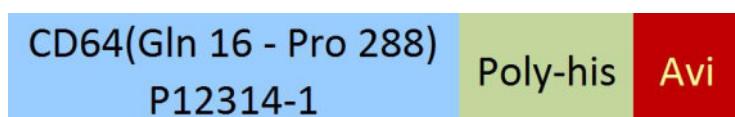
FCGR1A,FCG1,FCGR1,IGFR1,CD64,CD64A,FCRI

## Source

Biotinylated Human CD64, His,Avitag(FCA-H82E8) is expressed from human 293 cells (HEK293). It contains AA Gln 16 - Pro 288 (Accession # [P12314-1](#)).

Predicted N-terminus: Gln 16

## Molecular Characterization



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

The protein has a calculated MW of 34.2 kDa. The protein migrates as 50-60 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.

## Purity

>95% as determined by SDS-PAGE.

>95% 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

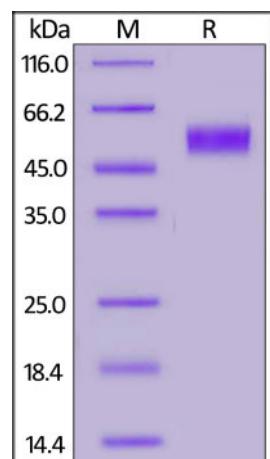
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

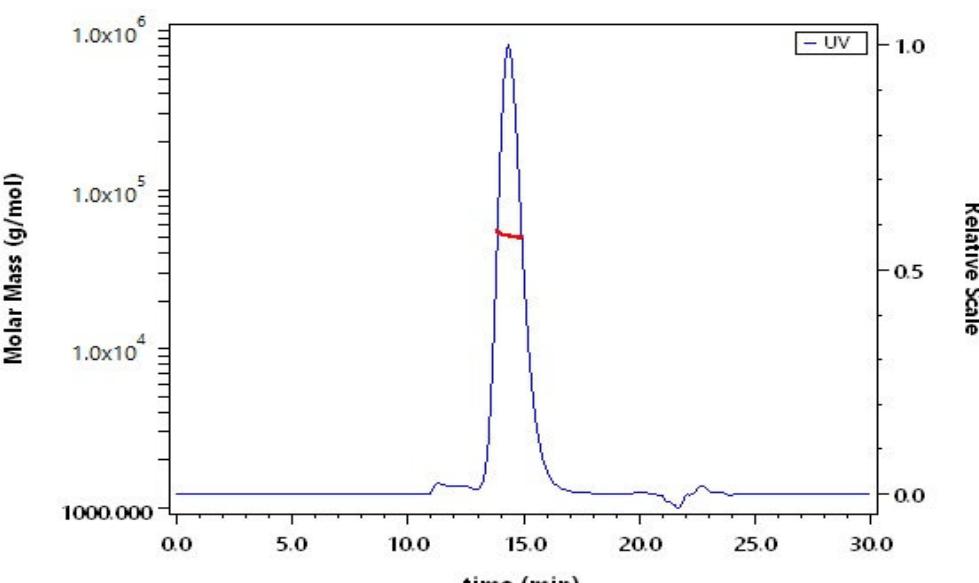
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 12 months under sterile conditions after reconstitution.

## SDS-PAGE



Biotinylated Human CD64, His,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

## SEC-MALS



The purity of Biotinylated Human CD64, His,Avitag (Cat. No. FCA-H82E8) is more than 95% and the molecular weight of this protein is around 46-66 kDa verified by SEC-MALS.

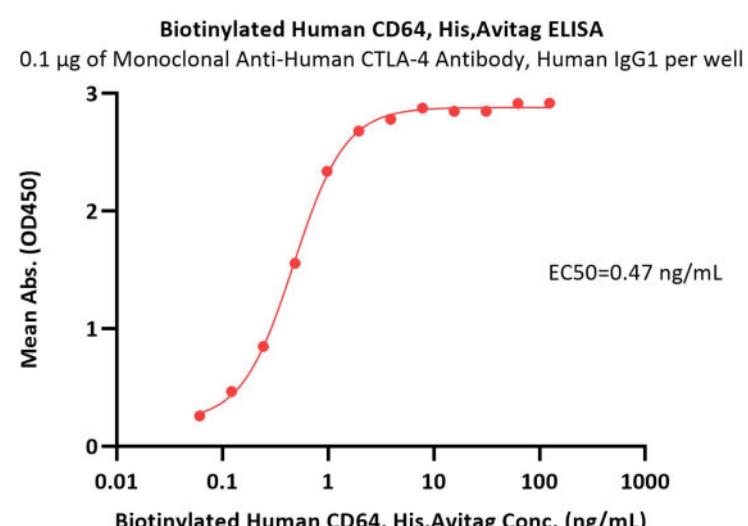
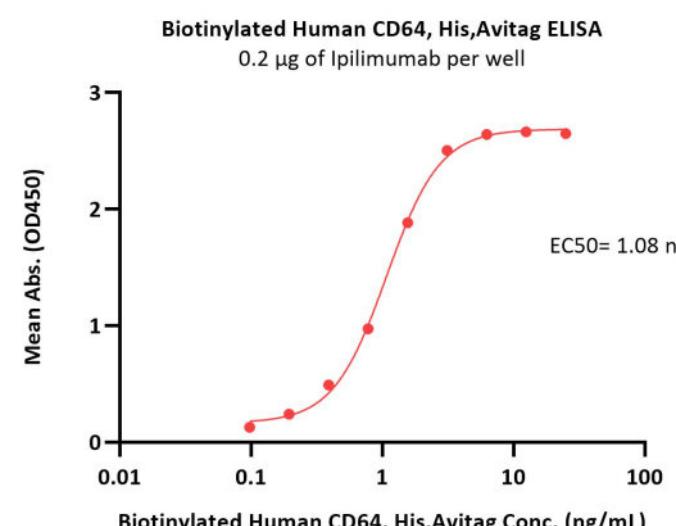
[Report](#)

## Bioactivity-ELISA

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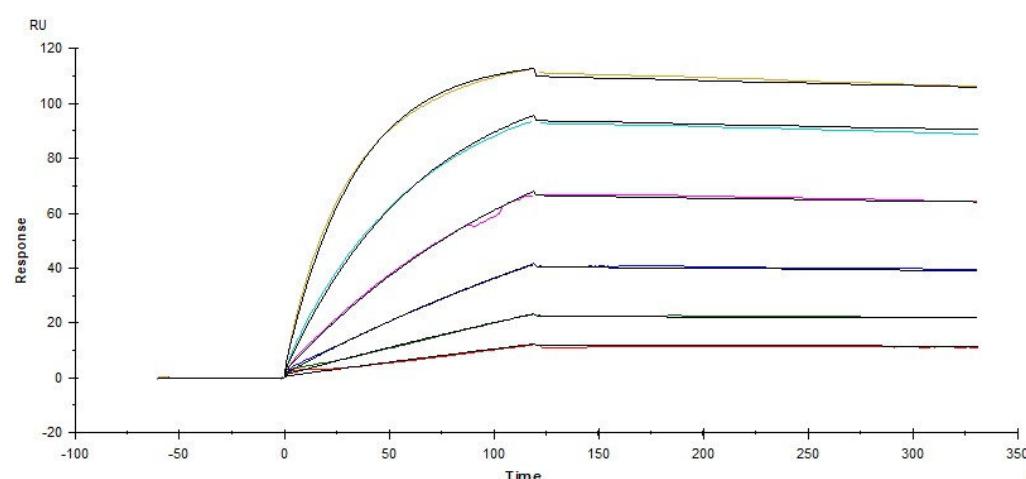
» [www.acrobiosystems.com](http://www.acrobiosystems.com)



Immobilized Ipilimumab at 2 µg/mL (100 µL/well) can bind Biotinylated Human CD64, His,Avitag (Cat. No. FCA-H82E8) with a linear range of 0.1-3 ng/mL (QC tested).

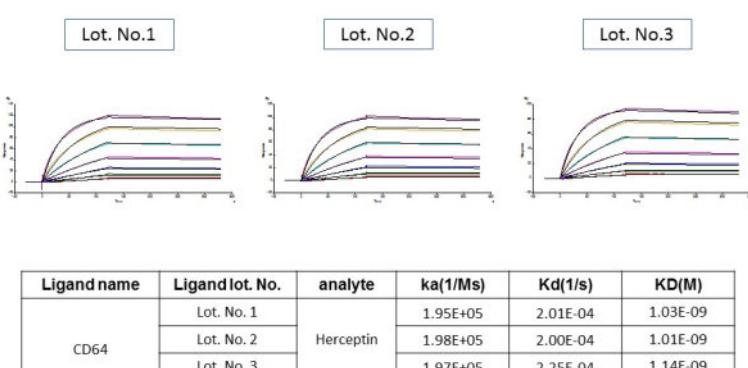
Immobilized Monoclonal Anti-Human CTLA-4 Antibody, Human IgG1 at 1 µg/mL (100 µL/well) can bind Biotinylated Human CD64, His,Avitag (Cat. No. FCA-H82E8) with a linear range of 0.06-1 ng/mL (Routinely tested).

### Bioactivity-SPR



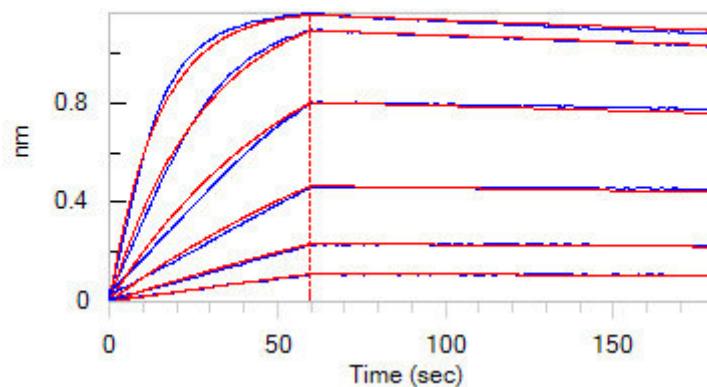
Biotinylated Human CD64, His,Avitag (Cat. No. FCA-H82E8) captured on Biotin CAP - Series S sensor Chip can bind Anti-Her2 antibody, Human IgG1 | Human Kappa with an affinity constant of 0.435 nM as determined in a SPR assay (Biacore T200) (QC tested).

### Batch consistency

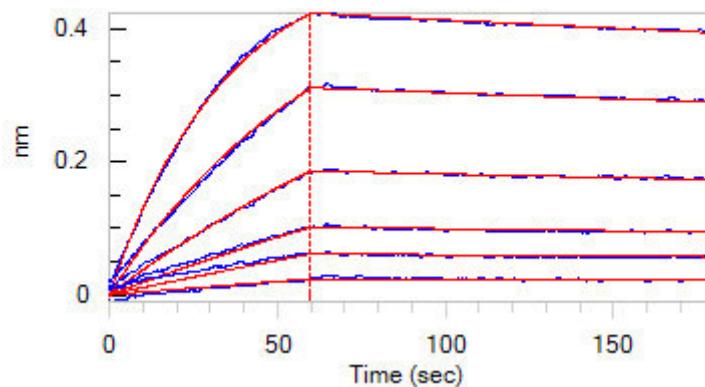


Ligand name	Ligand lot No.	analyte	ka(1/Ms)	Kd(1/s)	KD(M)
CD64	Lot. No. 1	Herceptin	1.95E+05	2.01E-04	1.03E-09
	Lot. No. 2		1.98E+05	2.00E-04	1.01E-09
	Lot. No. 3		1.97E+05	2.25E-04	1.14E-09

### Bioactivity-BLI



Loaded Biotinylated Human CD64, His,Avitag (Cat. No. FCA-H82E8) on SA Biosensor, can bind Herceptin with an affinity constant of 0.515 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Biotinylated Human CD64, His,Avitag (Cat. No. FCA-H82E8) on SA Biosensor, can bind Human IgG Fc, His Tag (Cat. No. IG1-H5225) with an affinity constant of 1.60 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

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## Background

Receptors that recognize the Fc portion of IgG are divided into three groups designated Fc gamma RI, RII, and RIII, also known respectively as CD64, CD32, and CD16. Fc gamma RI binds IgG with high affinity and functions during early immune responses. Fc gamma RII and RIII are low affinity receptors that recognize IgG as aggregates surrounding multivalent antigens during late immune responses.

High affinity immunoglobulin gamma Fc receptor I is also known as FCGR1A, FCG1, FCGR1, CD64 and IGFR1, is a type of integral membrane glycoprotein that binds monomeric IgG-type antibodies with high affinity, which belongs to the immunoglobulin superfamily or FCGR1 family. FCGR1A / CD64 contains 3 Ig-like C2-type (immunoglobulin-like) domains. CD64 is constitutively found on only macrophages and monocytes, but treatment of polymorphonuclear leukocytes with cytokines like IFN $\gamma$  and G-CSF can induce CD64 expression on these cells.

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