Biotinylated Human Fc gamma RI / CD64 Protein, His,Avitag™ (SPR & BLI verified)

Catalog # AMS.FCA-H82E8-25UG

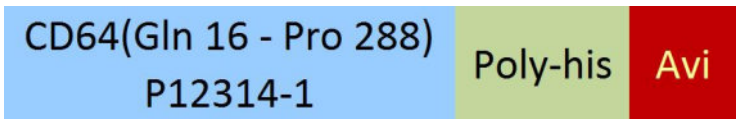
Synonym

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

Source

Biotinylated Human CD64, His,Avitag (SPR & BLI verified) (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.

The protein has a calculated MW of 34.3 kDa. The protein migrates as 50-65 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 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

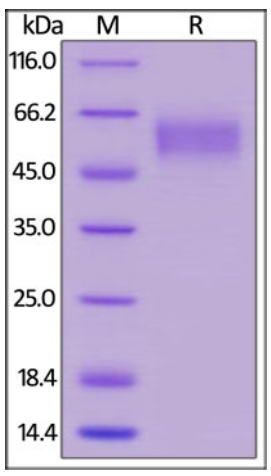
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

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 CD64, 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-ELISA

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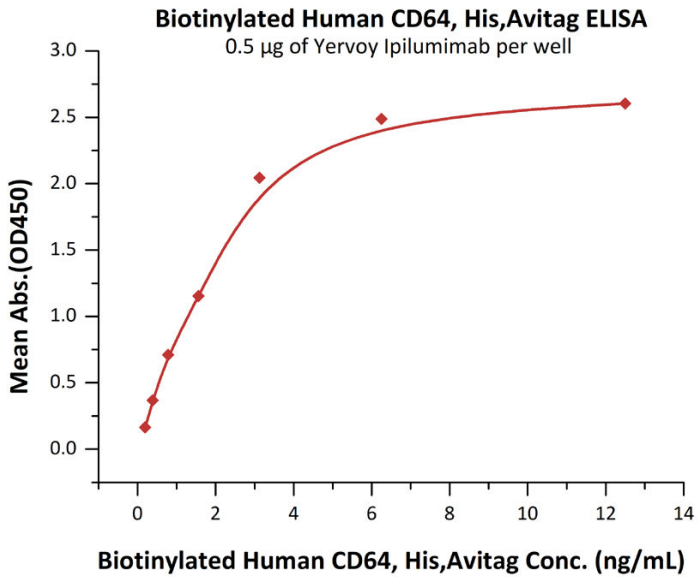
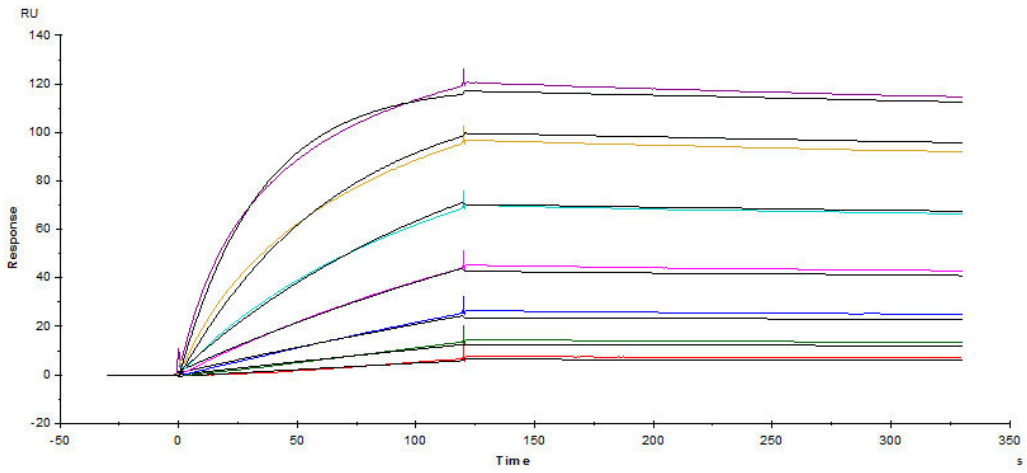
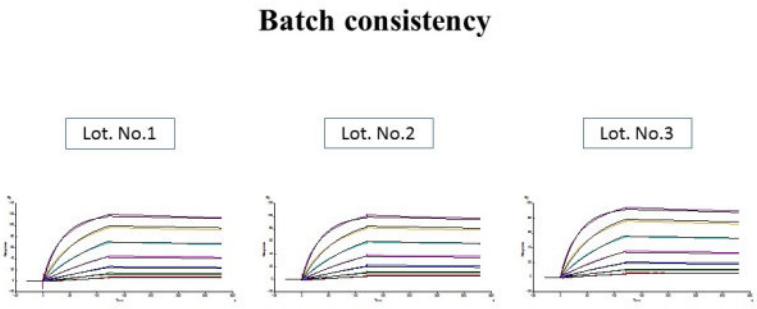


Immobilized Yervoy Ipilumimab at 5 μg/mL (100 μL/well) can bind Biotinylated Human CD64, His,Avitag (SPR & BLI verified) (Cat. No. FCA-H82E8) with a linear range of 0.2-3 ng/mL (QC tested).

Bioactivity-SPR



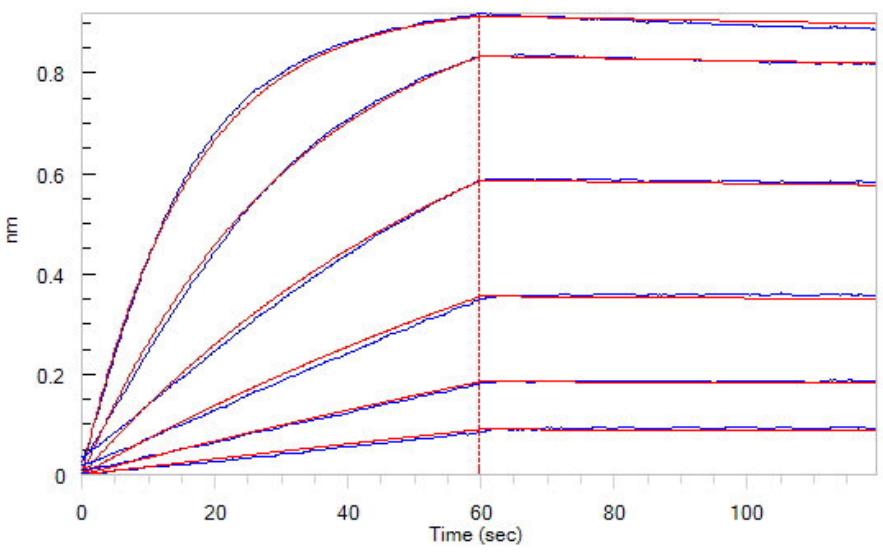


Ligand name	Ligand lot. No.	analyte	ka(1/Ms)	Kd(1/s)	KD(M)
CD64	Lot. No. 1	Herceptin	1.95E+05	2.01E-04	1.03E-09
	Lot. No. 2		1.98E+05	2.00E-04	1.01E-09
	Lot. No. 3		1.97E+05	2.25E-04	1.14E-09

Biotinylated Human CD64, His,Avitag (SPR & BLI verified) (Cat. No. FCA-H82E8) captured on Biotin CAP- Series S Sensor Chip can bind Herceptin with an affinity constant of 1.02 nM as determined in a SPR assay (Biacore T200) (QC tested).

Report

Bioactivity-BLI



Loaded Biotinylated Human CD64, His,Avitag (SPR & BLI verified) (Cat. No. FCA-H82E8) on SA Biosensor, can bind Herceptin with an affinity constant of 0.334 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

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 IFNγ and G-CSF can induce CD64 expression on these cells.

References

(1) van Vugt M.J., et al., 1996, Blood 87:3593-3599.
(2) Ernst L.K., et al., 1998, Mol. Immunol. 35:943-954.
(3) van Vugt M.J., 1999, Blood 94:808-817.
(4) Edberg J.C., et al., 1999, J. Biol. Chem. 274:30328-30333.

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