

Synonym

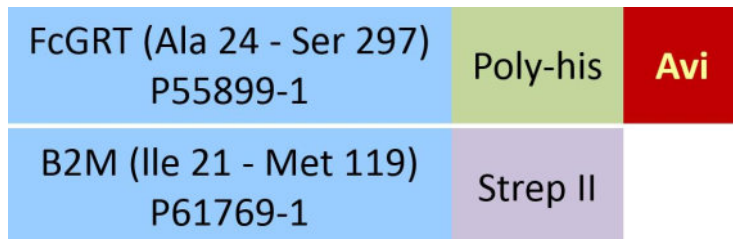
FcRn, FCGRT & B2M

Source

Biotinylated Human FCGRT&B2M Heterodimer Protein, Avitag, His Tag&Strep II Tag (FCM-H82W4) is expressed from human 293 cells (HEK293). It contains AA Ala 24 - Ser 297 (FCGRT) & Ile 21 - Met 119 (B2M) (Accession # [P55899-1](#)(FCGRT) & [P61769-1](#)(B2M)).

Predicted N-terminus: Ala 24 (FCGRT) & Ile 21 (B2M)

Molecular Characterization



Biotinylated Human FCGRT&B2M Heterodimer Protein, Avitag, His Tag&Strep II Tag, produced by co-expression of FCGRT and B2M, has a calculated MW of 34.1 kDa (FCGRT) and 13.1 kDa (B2M). Subunit FCGRT is fused with a polyhistidine tag at the C-terminus, followed by an Avi tag (Avitag™) and subunit Beta-2 microglobulin (B2M) is fused with Strep II-tag at the C-terminus. The reducing (R) protein migrates as 38 kDa (FCGRT) and 14 kDa (B2M) respectively 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

>95% as determined by SDS-PAGE.

>90% as determined by SEC-HPLC.

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

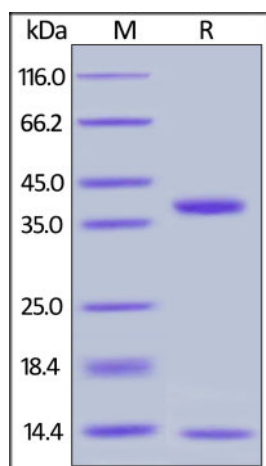
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

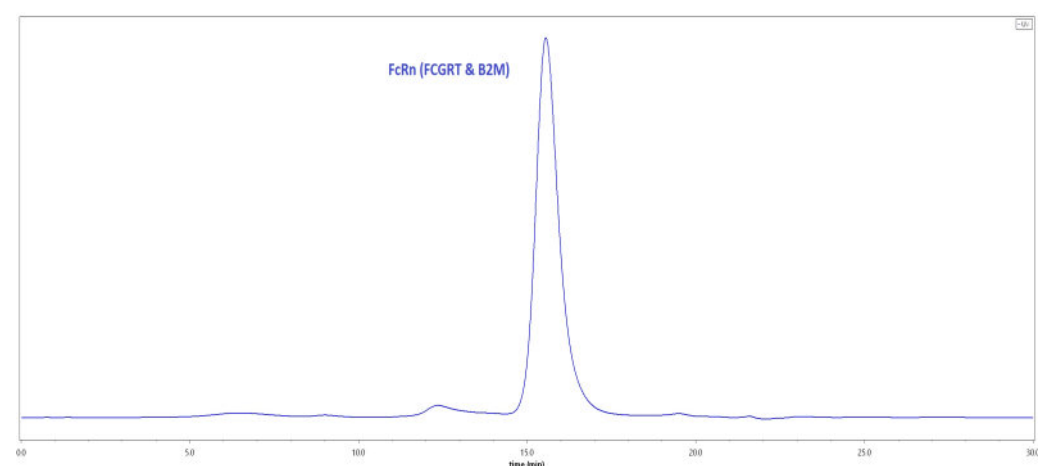
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 12 months under sterile conditions after reconstitution.

SDS-PAGE



Biotinylated Human FCGRT&B2M Heterodimer Protein, Avitag, His Tag&Strep II Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

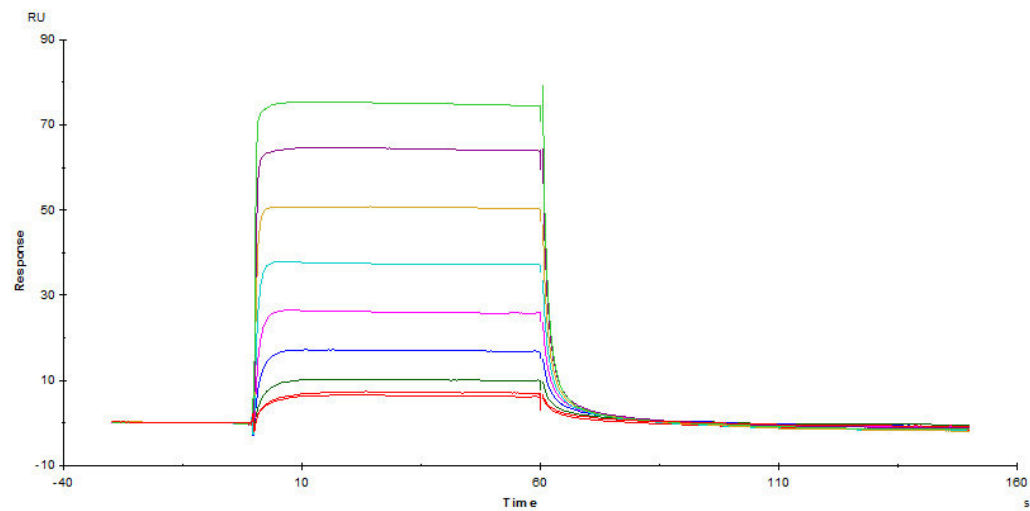
SEC-HPLC



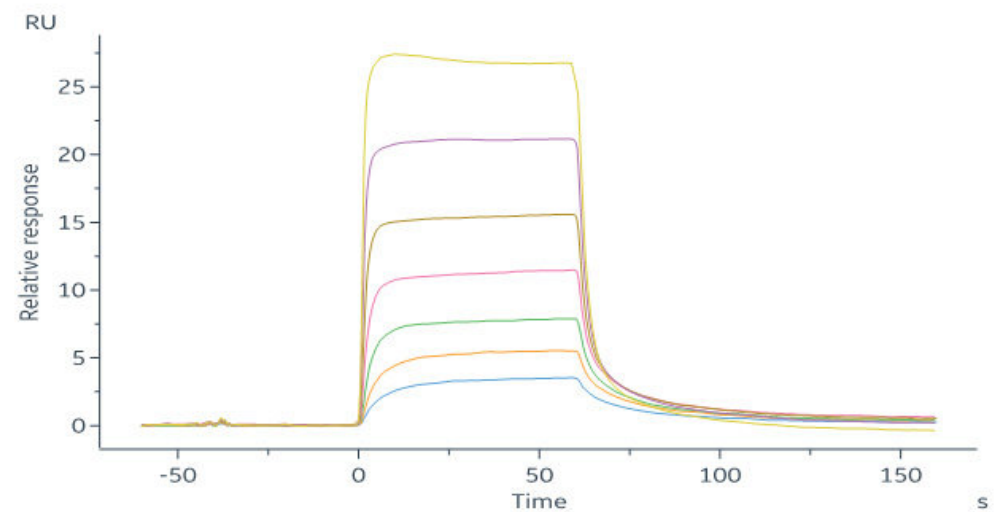
The purity of Biotinylated Human FCGRT&B2M Heterodimer Protein, Avitag, His Tag&Strep II Tag (Cat. No. FCM-H82W4) was greater than 90% as determined by SEC-HPLC.

Cat. No. FCM-H82W4

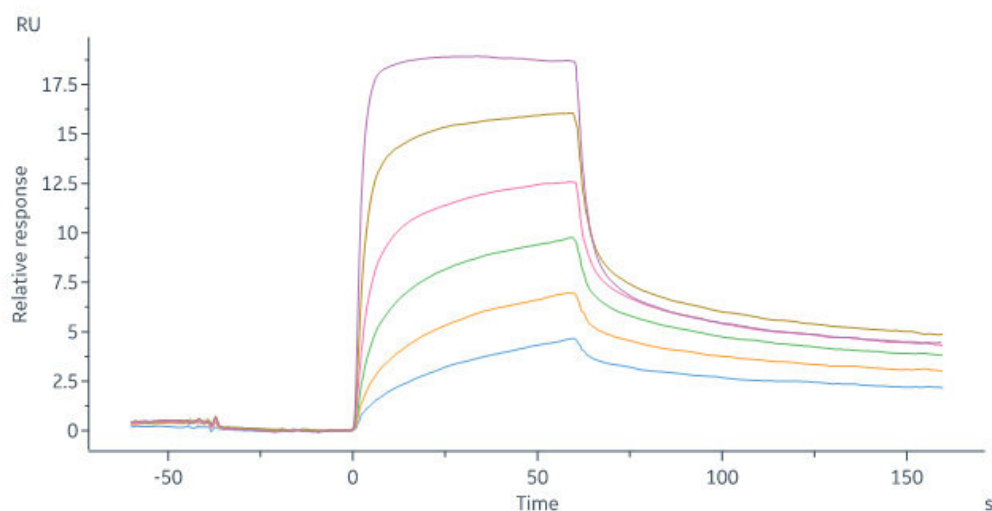
Bioactivity-SPR



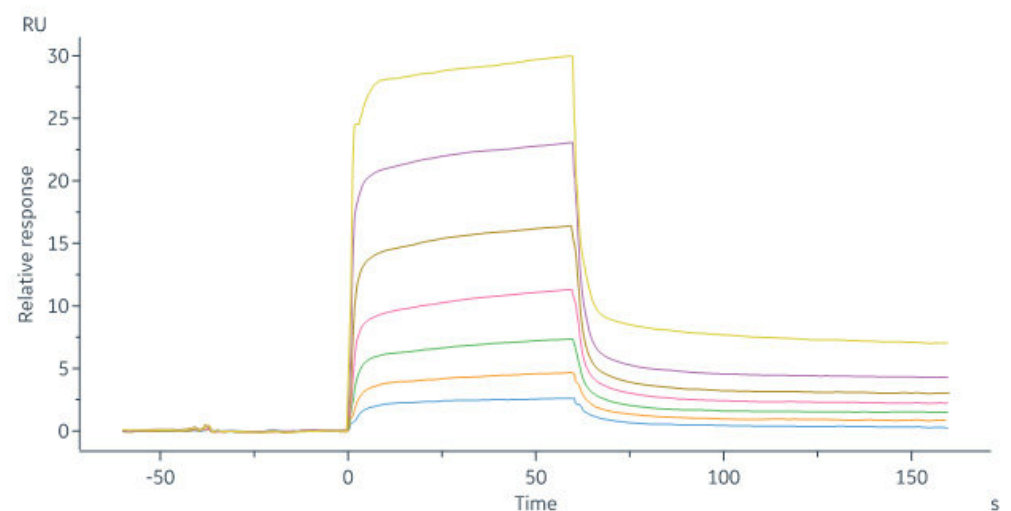
Biotinylated Human FCGRT&B2M Heterodimer Protein, Avitag, His Tag&Strep II Tag (Cat. No. FCM-H82W4) captured on Biotin CAP - Series S Sensor Chip can bind Herceptin with an affinity constant of 0.369 μM as determined in a SPR assay (Biacore T200) (QC tested).



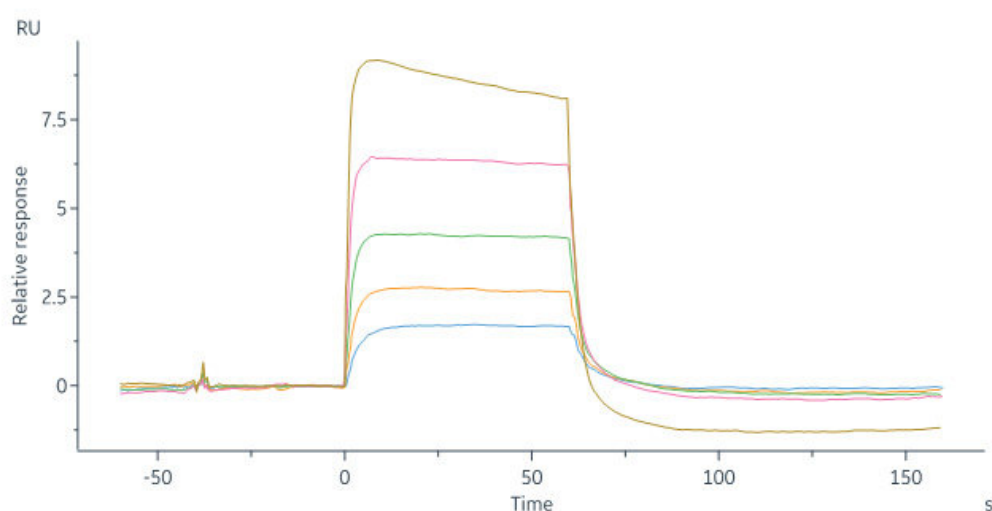
Biotinylated Human FCGRT&B2M Heterodimer Protein, Avitag, His Tag&Strep II Tag (Cat. No. FCM-H82W4) captured on Biotin CAP - Series S sensor Chip can bind Human IgG1 Fc, Tag Free (Cat. No. FCC-H5214) with an affinity constant of 0.728 μM as determined in a SPR assay (Biacore 8K) (Routinely tested).



Biotinylated Human FCGRT&B2M Heterodimer Protein, Avitag, His Tag&Strep II Tag (Cat. No. FCM-H82W4) captured on Biotin CAP - Series S sensor Chip can bind Human IgG2 Fc, Tag Free (Cat. No. IG2-H5206) with an affinity constant of 0.113 μM as determined in a SPR assay (Biacore 8K) (Routinely tested).



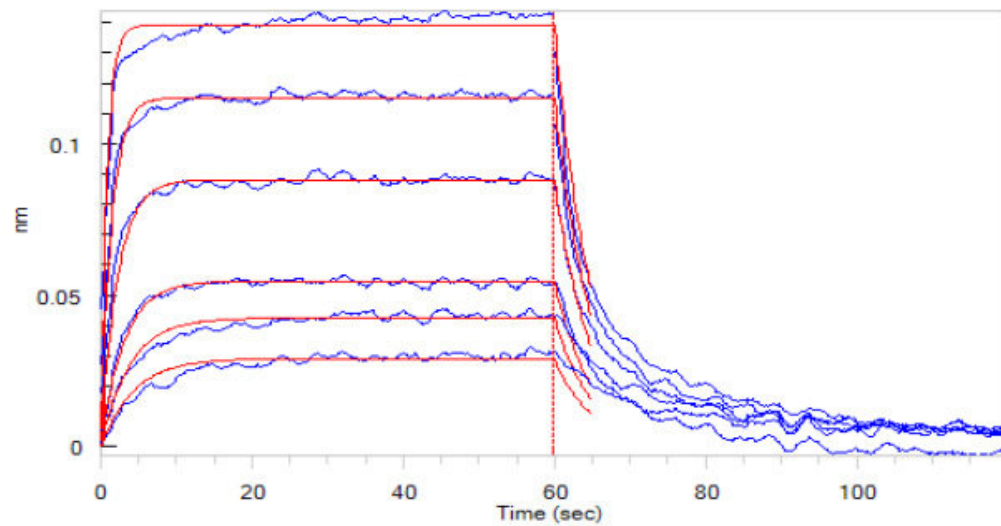
Biotinylated Human FCGRT&B2M Heterodimer Protein, Avitag, His Tag&Strep II Tag (Cat. No. FCM-H82W4) captured on Biotin CAP - Series S sensor Chip can bind Human IgG3 Fc, Tag Free (Cat. No. IG3-H5200) with an affinity constant of 3.32 μM as determined in a SPR assay (Biacore 8K) (Routinely tested).



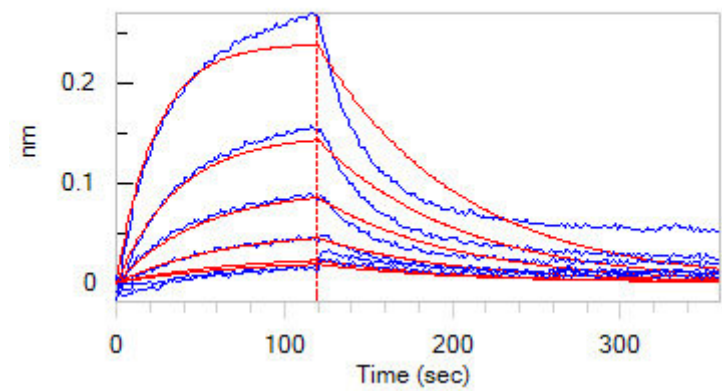
Biotinylated Human FCGRT&B2M Heterodimer Protein, Avitag, His Tag&Strep II Tag (Cat. No. FCM-H82W4) captured on Biotin CAP - Series S sensor Chip can bind Human IgG4 Fc, Tag Free (Cat. No. IG4-H5205) with an affinity constant of 1.06 μM as determined in a SPR assay (Biacore 8K) (Routinely tested).

Cat. No. FCM-H82W4

Bioactivity-BLI



Biotinylated Human FCGRT&B2M Heterodimer Protein, Avitag, His Tag&Strep II Tag (Cat. No. FCM-H82W4) on SA Biosensor, can bind Herceptin with an affinity constant of 0.22 μM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Biotinylated Human FCGRT&B2M Heterodimer Protein, Avitag, His Tag&Strep II Tag (Cat. No. FCM-H82W4) on SA Biosensor, can bind Human Serum Albumin, His Tag (Cat. No. HSA-H5220) with an affinity constant of 0.772 μM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Background

FCGRT & B2M heterodimer protein (FcRn complex) consist of two subunits: p51 (equivalent to FCGRT), and p14 (equivalent to beta-2-microglobulin), and forms an MHC class I-like heterodimer. Fc fragment of IgG, receptor, transporter, alpha (FCGRT) binds to the Fc region of monomeric immunoglobulins gamma and mediates the uptake of IgG from milk. FCGRT possible role in transfer of immunoglobulin G from mother to fetus. Beta-2-microglobulin (B2M) is a component of the class I major histocompatibility complex (MHC) and involved in the presentation of peptide antigens to the immune system.

Clinical and Translational Updates

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