

**Synonym**

FcRn, FCGRT &amp; B2M

**Source**

Human FCGRT&B2M Heterodimer Protein, His Tag(FCN-H52W7) 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**

FcGRT (Ala 24 - Ser 297) P55899-1	Poly-his
B2M (Ile 21 - Met 119) P61769-1	

Human FCGRT&B2M Heterodimer Protein, His Tag, produced by co-expression of FCGRT and B2M, has a calculated MW of 32.3 kDa (FCGRT) and 11.7 kDa (B2M). Subunit FCGRT is fused with a polyhistidine tag at the C-terminus and subunit Beta-2 microglobulin (B2M) contains no tag at the C-terminus. The reducing (R) protein migrates as 33 kDa (FCGRT) and 10 kDa (B2M) respectively due to glycosylation.

**Endotoxin**Less than 1.0 EU per  $\mu$ g by the LAL method / rFC method.**Purity**

&gt;95% as determined by SDS-PAGE.

&gt;90% as determined by SEC-MALS.

**Formulation**Lyophilized from 0.22  $\mu$ m 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.*

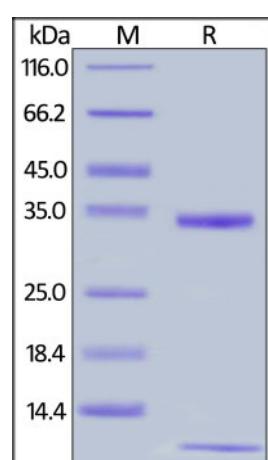
**Storage**

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

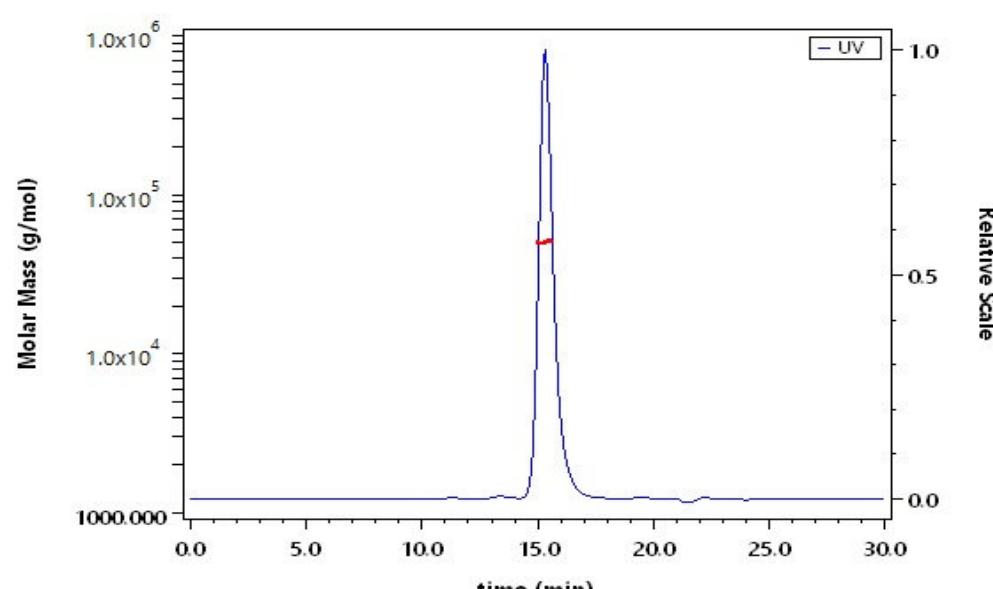
*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 24 months in lyophilized state;
- -70°C for 12 months under sterile conditions after reconstitution.

**SDS-PAGE**

Human FCGRT&B2M Heterodimer Protein, His Tag 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 Human FCGRT&B2M Heterodimer Protein, His Tag (Cat. No. FCN-H52W7) is more than 90% and the molecular weight of this protein is around 40-60 kDa verified by SEC-MALS.

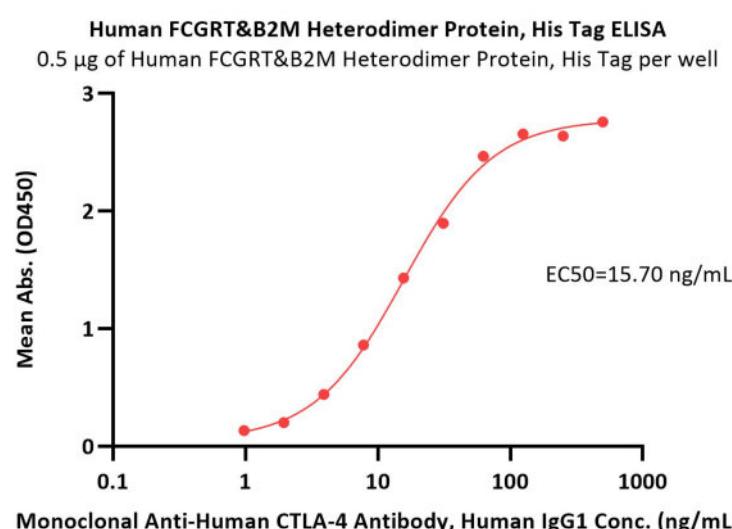
[Report](#)

**Bioactivity-ELISA**

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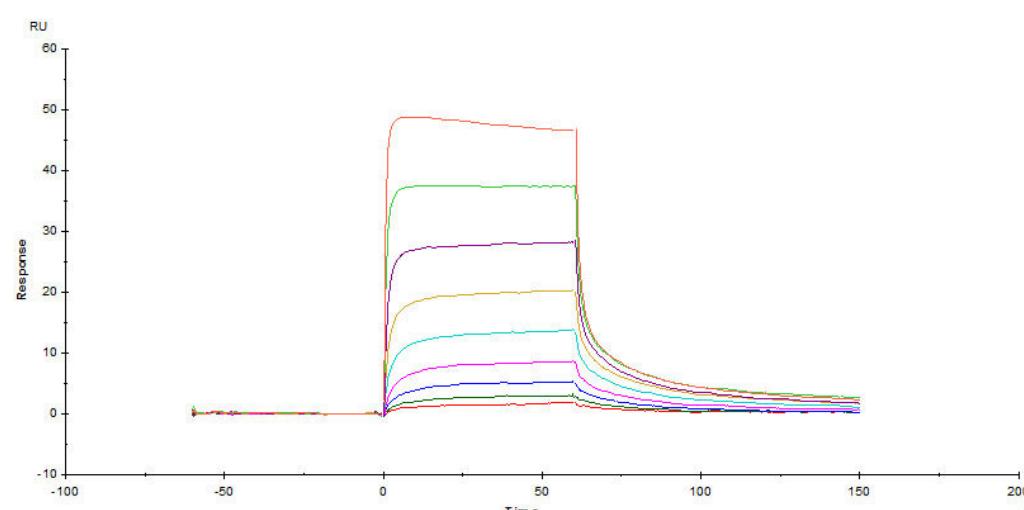


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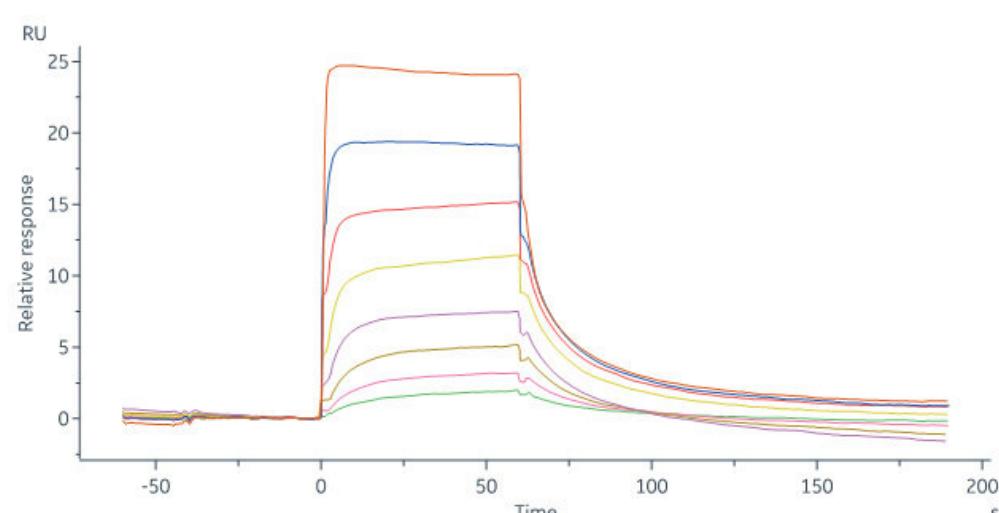


Immobilized Human FCGRT&B2M Heterodimer Protein, His Tag (Cat. No. FCN-H52W7) at 5 µg/mL (100 µL/well) on a Nickel Coated plate can bind Monoclonal Anti-Human CTLA-4 Antibody, Human IgG1 with a linear range of 1-31 ng/mL (Routinely tested).

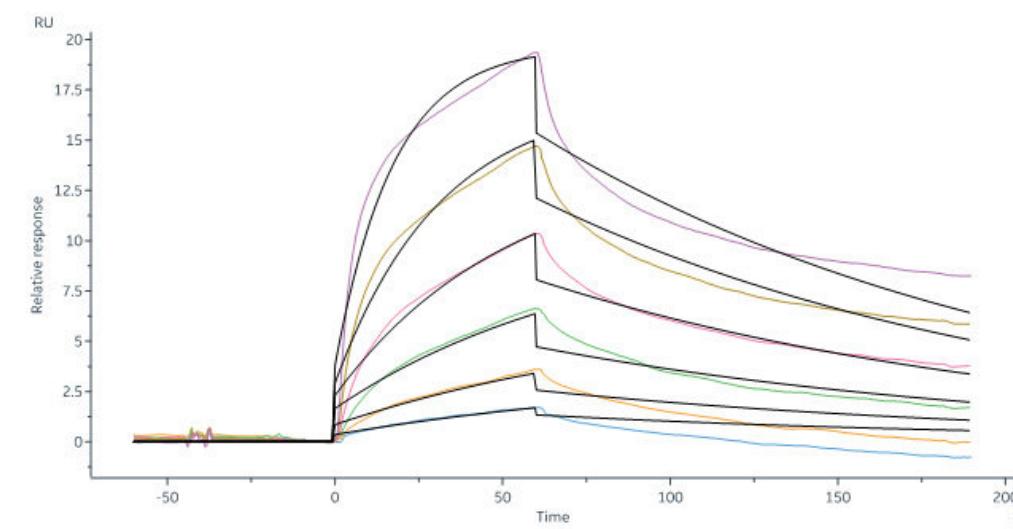
### Bioactivity-SPR



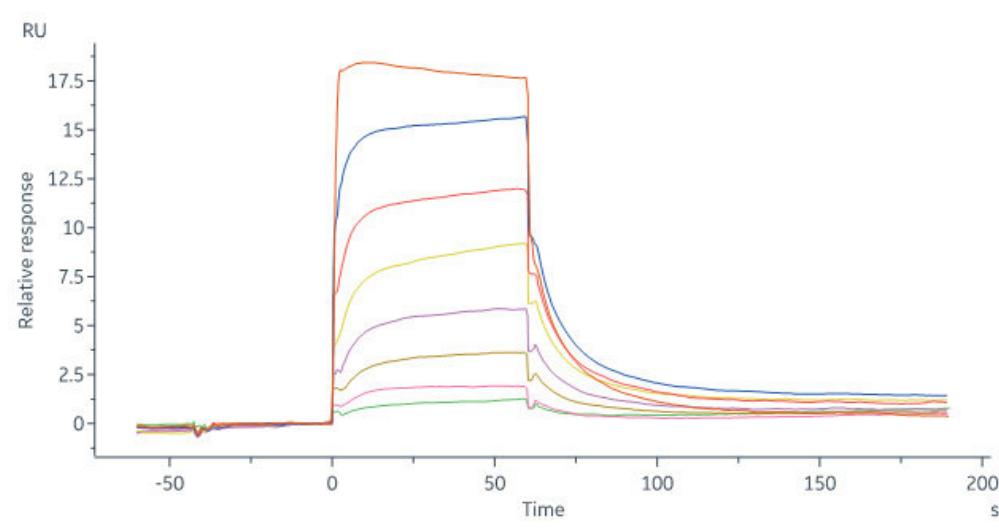
Captured Human FCGRT&B2M Heterodimer Protein, His Tag (Cat. No. FCN-H52W7) on CM5 Chip via Anti-His antibody can bind Herceptin® (Trastuzumab) with an affinity constant of 0.516 µM as determined in a SPR assay (Biacore T200) (QC tested).



Human FCGRT&B2M Heterodimer Protein, His Tag (Cat. No. FCN-H52W7) captured on CM5 Chip via anti-His antibody can bind Human IgG1 Fc, Tag Free (Cat. No. FCC-H5214) with an affinity constant of 0.957 µM as determined in SPR assay (Biacore 8K) (Routinely tested).



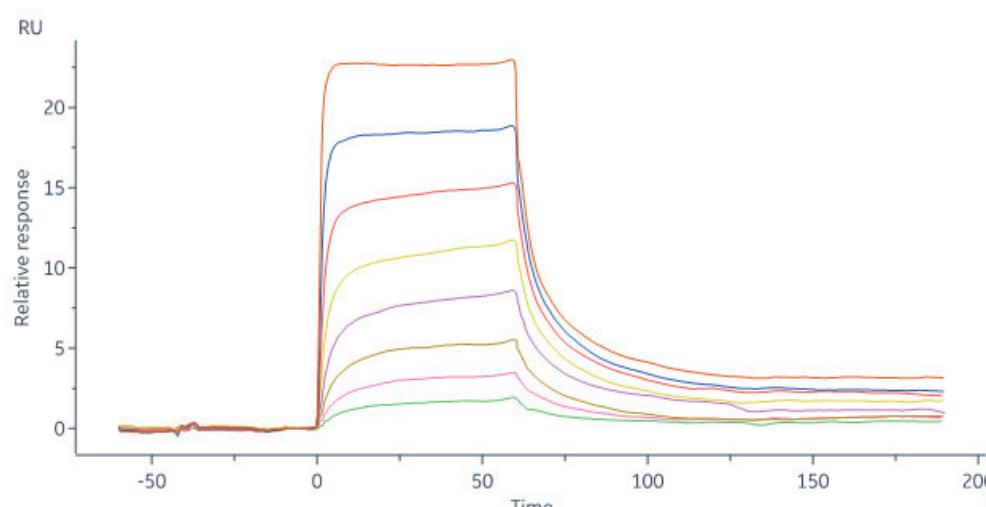
Human FCGRT&B2M Heterodimer Protein, His Tag (Cat. No. FCN-H52W7) captured on CM5 Chip via anti-His antibody can bind Human IgG2 Fc, Tag Free (Cat. No. IG2-H5206) with an affinity constant of 33.3 nM as determined in SPR assay (Biacore 8K) (Routinely tested).



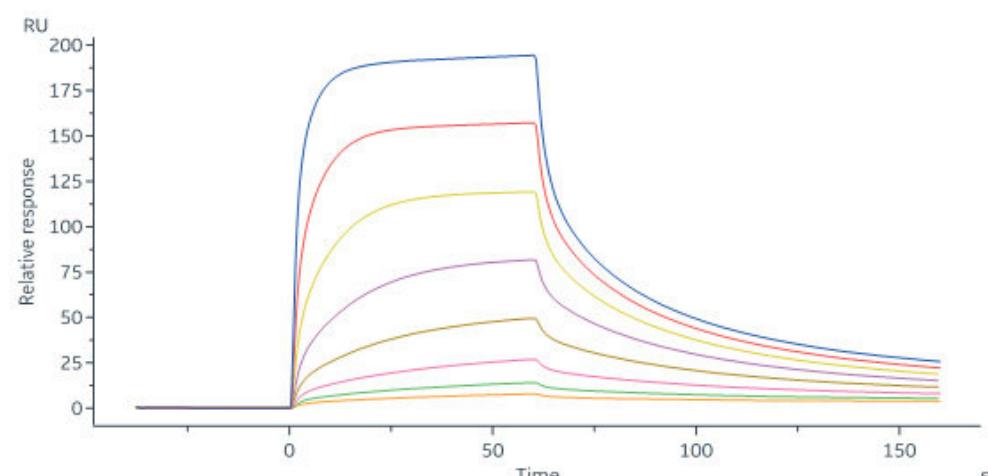
Human FCGRT&B2M Heterodimer Protein, His Tag (Cat. No. FCN-H52W7) captured on CM5 Chip via anti-His antibody can bind Human IgG3 Fc, Tag Free (Cat. No. IG3-H5200) with an affinity constant of 0.683 µM as determined in SPR assay (Biacore 8K) (Routinely tested).

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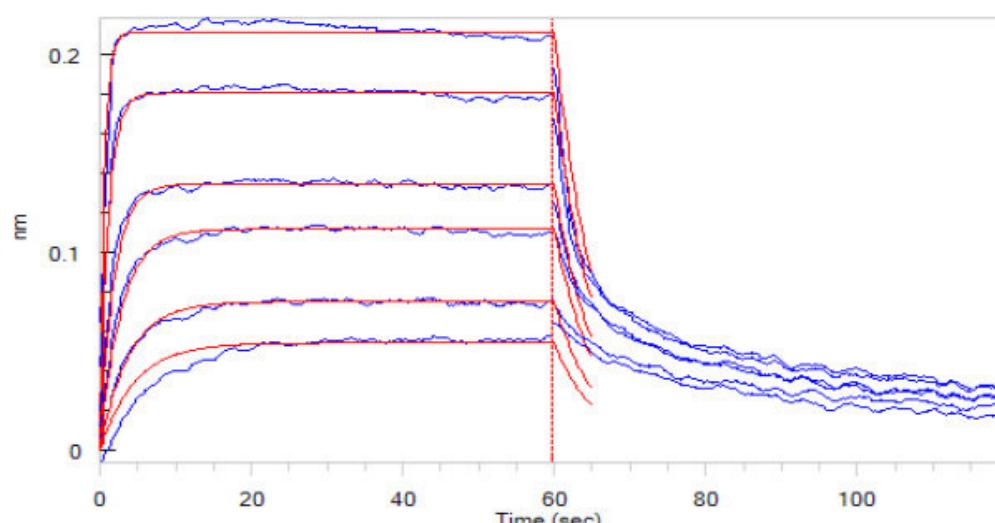


Human FCGRT&B2M Heterodimer Protein, His Tag (Cat. No. FCN-H52W7) captured on CM5 Chip via anti-His antibody can bind Human IgG4 Fc, Tag Free (SPR verified) (Cat. No. IG4-H5205) with an affinity constant of 0.715  $\mu$ M as determined in SPR assay (Biacore 8K) (Routinely tested).

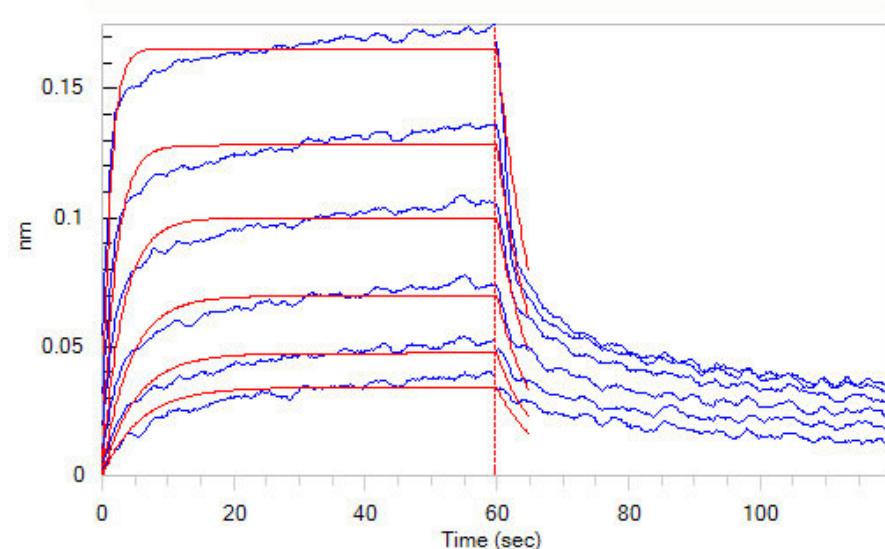


Herceptin immobilized on CM4 Chip can bind Human FCGRT&B2M Heterodimer Protein, His Tag (Cat. No. FCN-H52W7) with an affinity constant of 0.257  $\mu$ M as determined in a SPR assay (Biacore 8K) (Routinely tested).

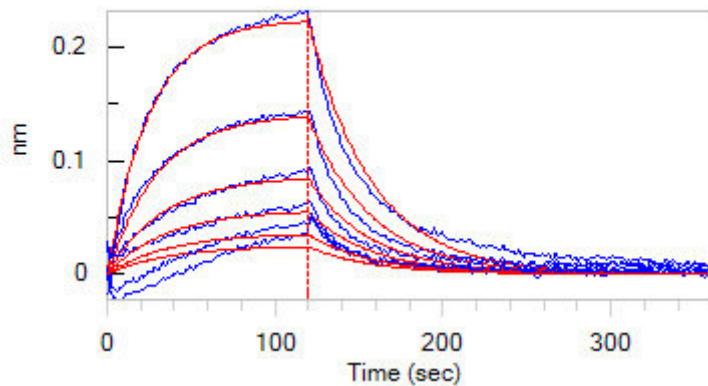
### Bioactivity-BLI



Loaded Human FCGRT&B2M Heterodimer Protein, His Tag (Cat. No. FCN-H52W7) on SA Biosensor via Biotin his antibody, can bind Herceptin with an affinity constant of 0.14  $\mu$ M as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Human FCGRT&B2M Heterodimer Protein, His Tag (Cat. No. FCN-H52W7) on AR2G Biosensor, can bind Herceptin with an affinity constant of 0.22  $\mu$ M as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Biotinylated Human Serum Albumin, His,Avitag (Cat. No. HSA-H82E3) on SA Biosensor, can bind Human FCGRT&B2M Heterodimer Protein, His Tag (Cat. No. FCN-H52W7) with an affinity constant of 4.09  $\mu$ M as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

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## 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.

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