Human FcRn / FCGRT & B2M Heterodimer Protein (SPR verified)

Catalog # FCM-H5286
For Research Use Only

Description

Source
Human FcRn Heterodimer Protein (SPR verified) is expressed from human 293 cells (HEK293). It contains AA Ala 24 - Ser 297 (FCGRT) & Ile 21 - Met 119 (B2M) (Accession # NP_001129491.1 (FCGRT) & AAH32589 (B2M)). Predicted N-terminus: Ala 24(FCGRT) & Ile 21(B2M)

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

Protein Structure

Molecular Characterization
Human FcRn Heterodimer Protein (SPR verified), produced by co-expression of FCGRT and B2M, has a calculated MW of 31.2 kDa (FCGRT) and 13.1 kDa (B2M). Subunit FCGRT is fused with a polyhistidine tag at the C-terminus and subunit Beta-2 microglobulin (B2M) is fused with Strep II-tag at the C-terminus. The reducing (R) protein migrates as 33 kDa (FCGRT) and 13 kDa (B2M) respectively due to glycosylation.

Endotoxin
Less than 1.0 EU per μg by the LAL method.

Purity
>95% as determined by SDS-PAGE.

Formulation and Storage

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.

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.

References

Please contact us at TechSupport@acrobiosystems.com, if you have any questions about this product.
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Assay Data

SDS-PAGE Data

Human FcRn Heterodimer Protein (SPR 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 Data

Immobilized Ipilimumab at 10 μg/mL (100 μL/well) can bind Human FcRn Heterodimer Protein (SPR verified) (Cat. No. FCM-H5286) with a linear range of 0.078-1.25 μg/mL (QC tested).

Immobilized Ipilimumab at 10 μg/mL (100 μL/well) can bind Herceptin with an affinity constant of 0.489 μM as determined in a SPR assay (Biacore T200) (QC tested).

Immobilized Human FcRn Heterodimer Protein (Cat. No. FCM-H5286) on CM5 Chip via anti-His antibody, can bind Herceptin with an affinity constant of 0.489 μM as determined in a SPR assay (Biacore T200) (QC tested).

Immobilized Human FcRn Heterodimer Protein (Cat. No. FCM-H5286) on CM5 Chip, can bind Herceptin with an affinity constant of 1.19 μM as determined in a SPR assay (Biacore T200) (Routinely tested).
Immobilized Herceptin on CMS Chip can bind Human FcRn Heterodimer Protein (Cat. No. FCM-H5286) with an affinity constant of 0.998 μM as determined in a SPR assay (Biacore 8K) ( Routinely tested).

Immobilized Human FcRn Heterodimer Protein (Cat. No. FCM-H5286) on His2 Biosensor, can bind Herceptin with an affinity constant of 0.44 μM as determined in BLI assay (Fortebio Octet 96) ( Routinely tested).

Immobilized Herceptin on SA Biosensor via Biotinylated Her2 Protein (Cat. No. HE2-H822R), can bind Human FcRn Heterodimer Protein (Cat. No. FCM-H5286) with an affinity constant of 1.32 μM as determined in BLI assay (Fortebio Octet 96) ( Routinely tested).

Immobilized Human FcRn Heterodimer Protein (Cat. No. FCM-H5286) on His2 Biosensor, can bind Herceptin with an affinity constant of 0.44 μM as determined in BLI assay (Fortebio Octet 96) ( Routinely tested).