Biotinylated Human IL-23 alpha&IL-12 beta Heterodimer Protein, His,Avitag™&Tag Free (MALS verified)

Catalog # ILB-H82W6

Synonym

IL-23 alpha & IL-12 beta

Source

Biotinylated Human IL-23 alpha&IL-12 beta Heterodimer Protein, His,Avitag&Tag Free(ILB-H82W6) is expressed from human 293 cells (HEK293). It contains AA Arg 20 - Pro 189 (IL23A) & Ile 23 - Ser 328 (IL12B) (Accession # Q9NPF7-1 (IL23A) & P29460-1 (IL12B)).
Predicted N-terminus: His (IL23A) & Ile 23 (IL12B)

Molecular Characterization

Biotinylated Human IL-23A&IL-12B Heterodimer Protein, His,Avitag&Tag Free, produced by co-expression of IL23A and IL12B, has a calculated MW of 21.9 kDa (IL23A) & 34.7 kDa (IL12B). Subunit IL23A is fused with an Avi tag (Avitag™), followed by a polyhistidine tag at the N-terminus and subunit IL12B contains no tag. The predicted N-terminus is His (IL23A) & Ile 23 (IL12B). The reducing (R) protein migrates as 26 kDa (IL23A) & 40-45 kDa (IL12B) respectively 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.

Endotoxin

Less than 1.0 EU per μg by the LAL method.

Purity

>95% as determined by SDS-PAGE.

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

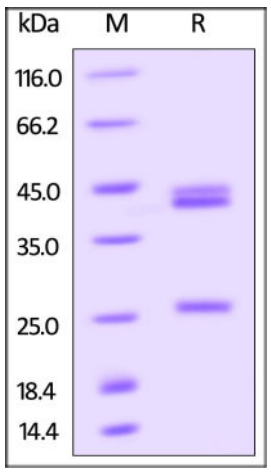
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

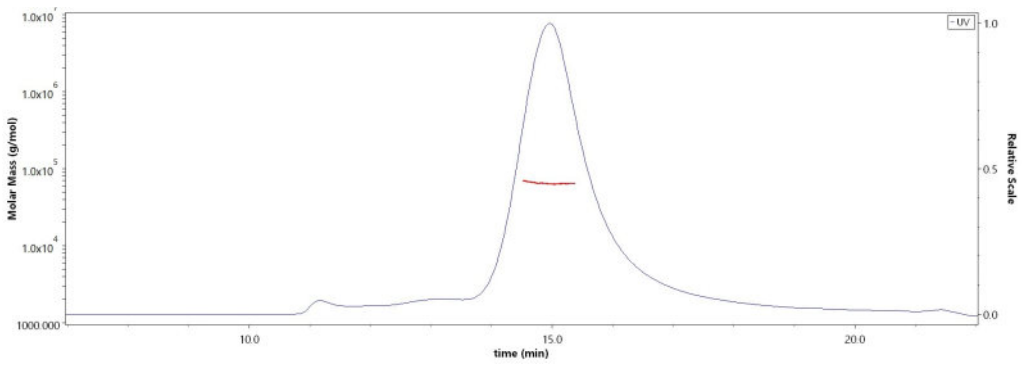
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



Biotinylated Human IL-23 alpha&IL-12 beta Heterodimer Protein, His,Avitag&Tag Free on SDS-PAGE under reducing (R) condition. The gel

SEC-MALS

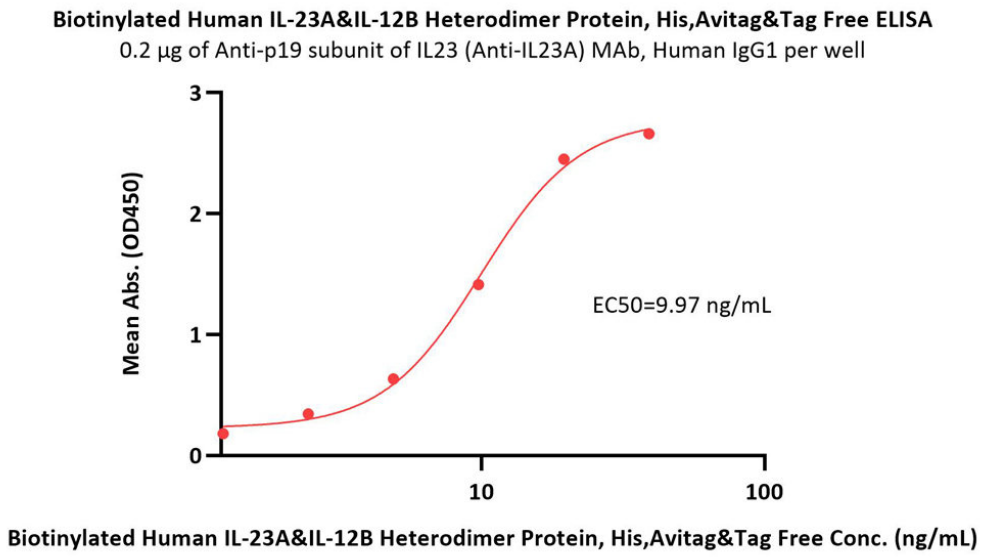


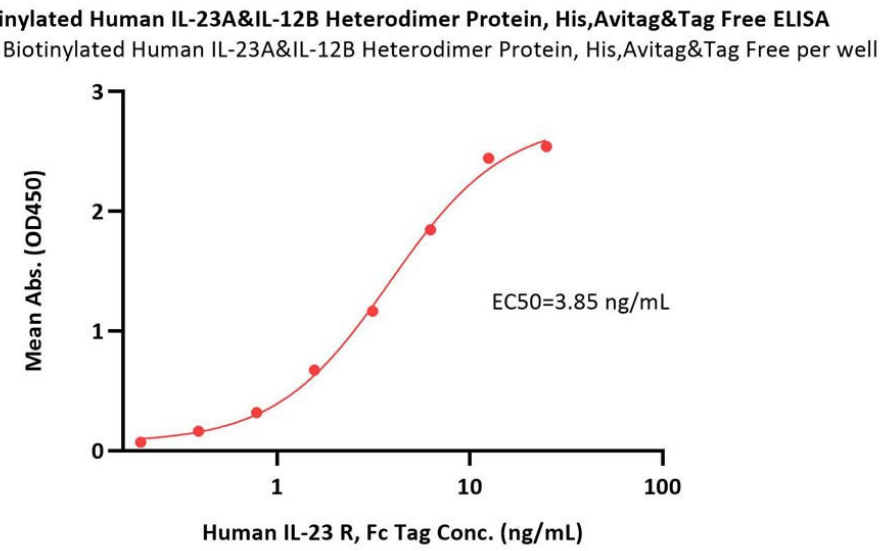
The purity of Biotinylated Human IL-23 alpha&IL-12 beta Heterodimer Protein, His,Avitag&Tag Free (Cat. No. ILB-H82W6) is more than 85% and

was stained with Coomassie Blue. The purity of the protein is greater than 95%.

the molecular weight of this protein is around 55-70 kDa verified by SEC-MALS.
Report

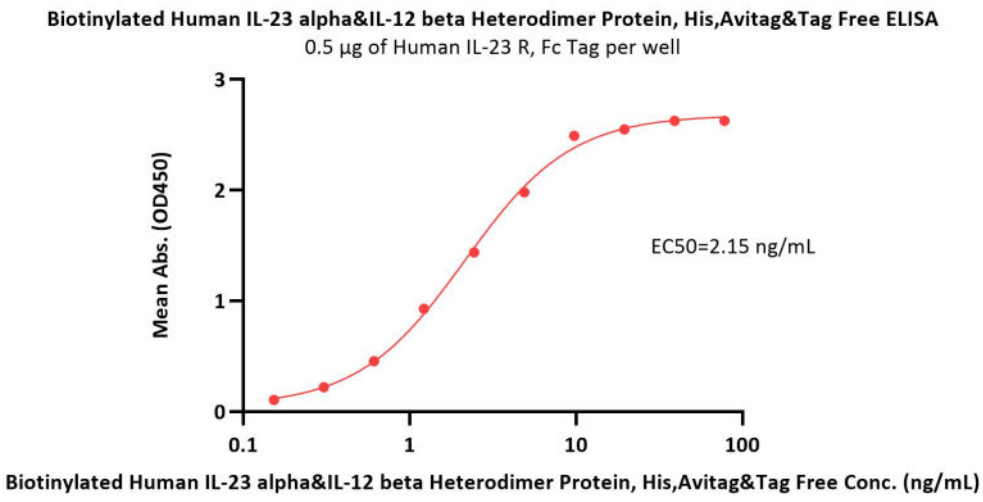
Bioactivity-ELISA





Immobilized Anti-p19 subunit of IL23 (Anti-IL23A) MAb, Human IgG1 at 2 μg/mL (100 μL/well) can bind Biotinylated Human IL-23A&IL-12B Heterodimer Protein, His,Avitag&Tag Free (Cat. No. ILB-H82W6) with a linear range of 1.2-19.5 ng/mL (QC tested).

Immobilized Biotinylated Human IL-23A&IL-12B Heterodimer Protein, His,Avitag&Tag Free (Cat. No. ILB-H82W6) at 2 μg/mL (100 μL/well) on streptavidin precoated (0.2 μg/well) plate, can bind Human IL-23 R, Fc Tag (Cat. No. ILR-H5254) with a linear range of 0.4-6 ng/mL (Routinely tested).

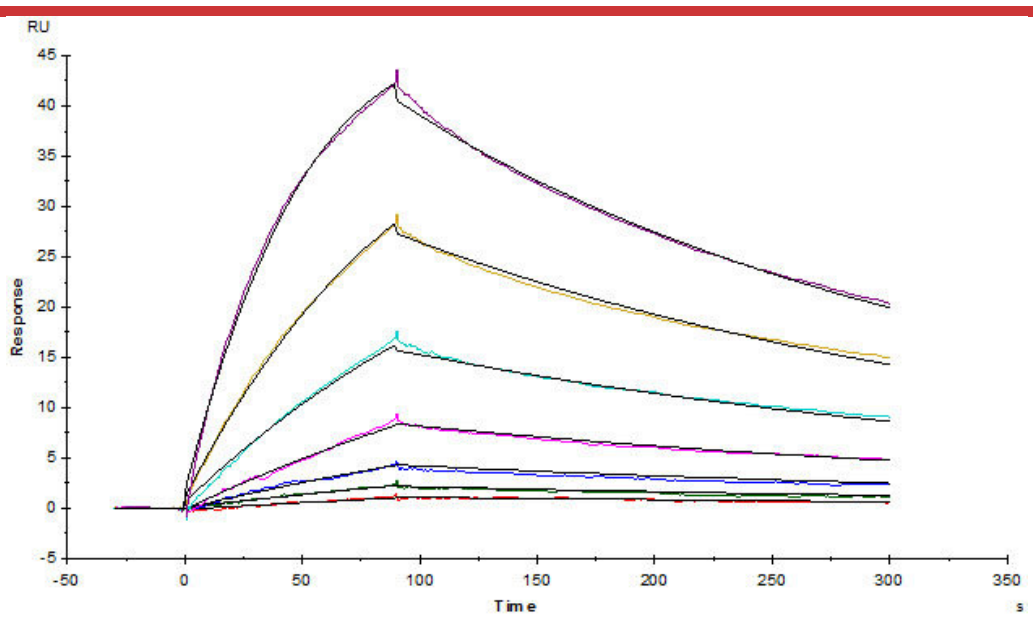


Immobilized Human IL-23 R, Fc Tag (Cat. No. ILR-H5254) at 5 μg/mL (100 μL/well) can bind Biotinylated Human IL-23 alpha&IL-12 beta Heterodimer Protein, His,Avitag&Tag Free (Cat. No. ILB-H82W6) with a linear range of 0.2-10 ng/mL (Routinely tested).

Bioactivity-SPR

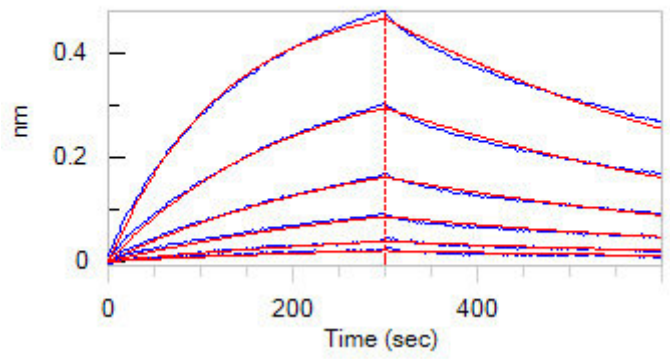
Biotinylated Human IL-23 alpha&IL-12 beta Heterodimer Protein, His,Avitag™&Tag Free (MALS verified)

Catalog # ILB-H82W6



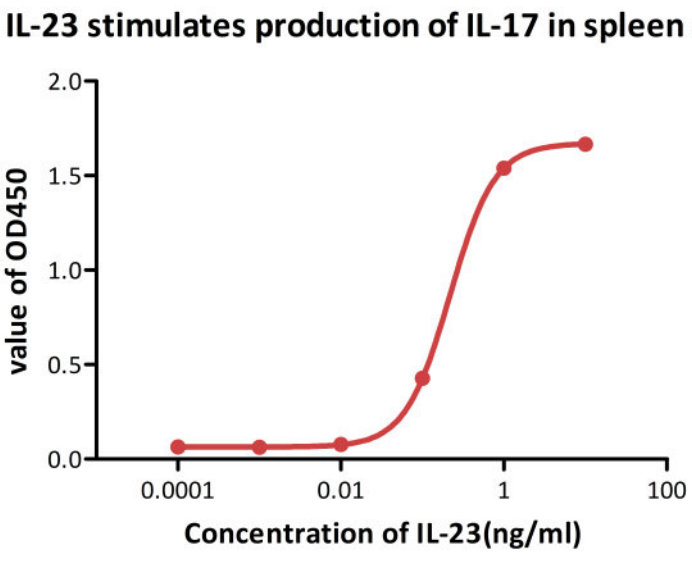
Captured Biotinylated Human IL-23A&IL-12B Heterodimer Protein, His,Avitag&Tag Free (Cat. No. ILB-H82W6) on Biotin CAP - Series S sensor Chip can bind Human IL-23 R, His Tag (Cat. No. ILR-H52H4) affinity constant of 4.77 nM as determined in a SPR assay (Biacore T200) (Routinely tested).

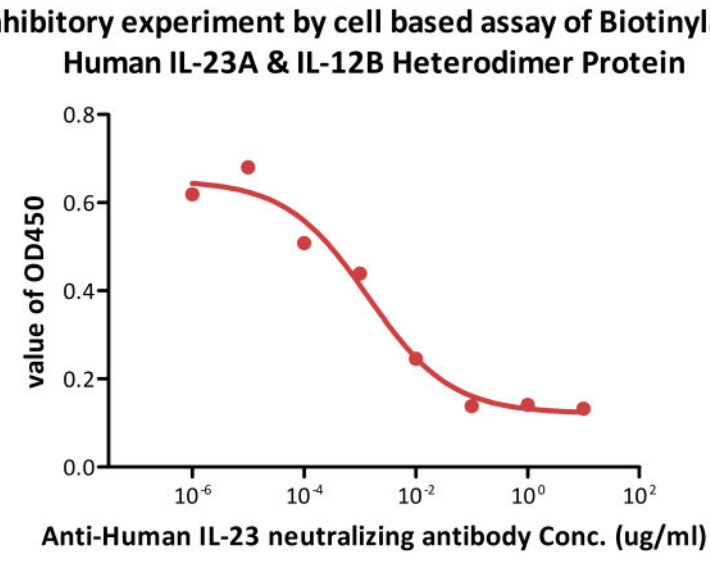
Bioactivity-BLI



Loaded Biotinylated Human IL-23A&IL-12B Heterodimer Protein, His,Avitag&Tag Free (Cat. No. ILB-H82W6) on SA Biosensor, can bind Human IL-23 R, His Tag (Cat. No. ILR-H52H4) with an affinity constant of 33.2 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Bioactivity-Bioactivity CELL BASE





Biotinylated Human IL-23A&IL-12B Heterodimer Protein, His,Avitag&Tag Free (Cat. No. ILB-H82W6) stimulates secretion of IL-17 by mousespleen cells. The ED50 for this effect is 0.191-0.2173 ng/mL (Routinely tested).

Cell based assay shows that the secretion of IL-17 induced by Biotinylated Human IL-23A&IL-12B Heterodimer Protein, His,Avitag&Tag Free (Cat. No. ILB-H82W6) is inhibited by increasing concentration of the anti-human IL-23 neutralizing antibody. The IC50 is between 0.25-1.40 ng/mL (Routinely tested).

Background

Interleukin-23 subunit alpha (IL-23 alpha) can associates with IL12B to form the IL-23 interleukin, a heterodimeric cytokine which functions in innate and adaptive immunity. IL-23 may constitute with IL-17 an acute response to infection in peripheral tissues. IL-23 binds to a heterodimeric receptor complex composed of IL12RB1 and IL23R, activates the Jak-Stat signaling cascade, stimulates memory rather than naive T-cells and promotes production of proinflammatory cytokines. IL-23 induces autoimmune inflammation and thus may be responsible for autoimmune inflammatory diseases and may be important for tumorigenesis.

Clinical and Translational Updates