



Synonym

IL12,p70,Interleukin-12

Source

Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag(IL2-H4210) is expressed from human 293 cells (HEK293). It contains AA Ile 23 - Ser 328 (IL-12B) & Arg 23 - Ser 219 (IL-12A) (Accession # [P29460-1](#) (IL12B) & [P29459-1](#) (IL12A)).

Predicted N-terminus: Ile 23 (IL12B) & Arg 23 (IL12A)

Molecular Characterization

IL-12B (Ile 23 - Ser 328) P29460-1	Poly-his
IL-12A (Arg 23 - Ser 219) P29459-1	Flag

Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag is produced by co-expression of IL-12B and IL-12A, has a calculated MW of 36.6 kDa (IL-12B) and 23.8 kDa (IL-12A). Subunit IL-12B is fused with polyhistidine tag at the C-terminus and subunit IL-12A is fused with flag tag at the C-terminus. The protein migrates as 30-38 kDa (IL12B) and 40-50 kDa (IL12A) when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Purity

>90% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

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

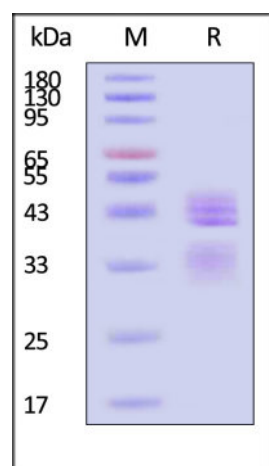
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

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.

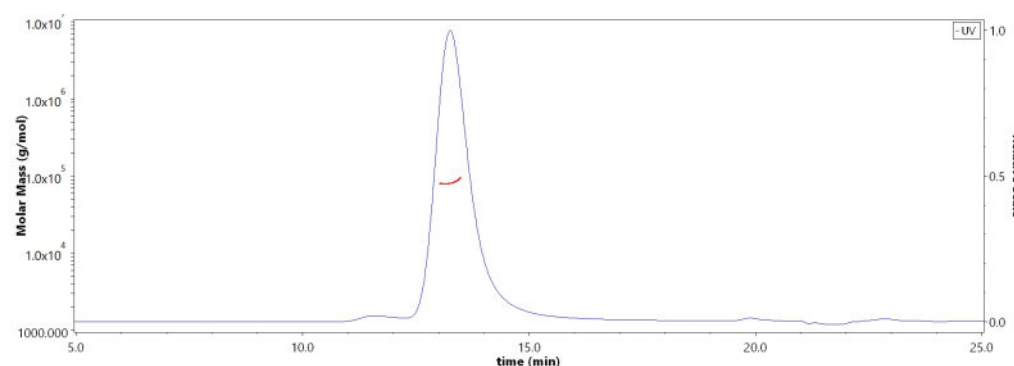
SDS-PAGE



Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-ELISA

SEC-MALS



The purity of Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag (Cat. No. IL2-H4210) is more than 90% and the molecular weight of this protein is around 70-95 kDa verified by SEC-MALS.

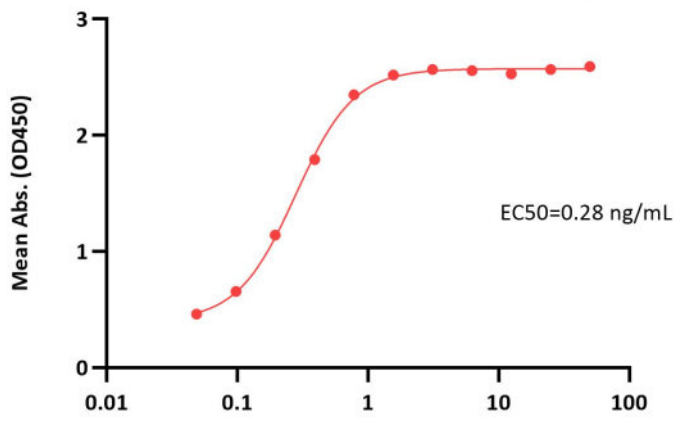
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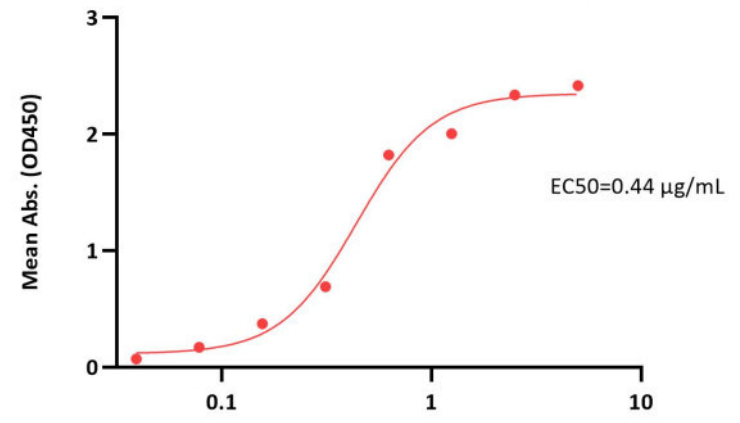


Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag ELISA
0.05 µg of Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag per well



Monoclonal Anti-Human IL23A&IL12B P40 domain Antibody, Human IgG1 Conc. (ng/mL)

Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag ELISA
0.1 µg of Biotinylated Human IL-12 R beta 1, Fc,Avitag per well

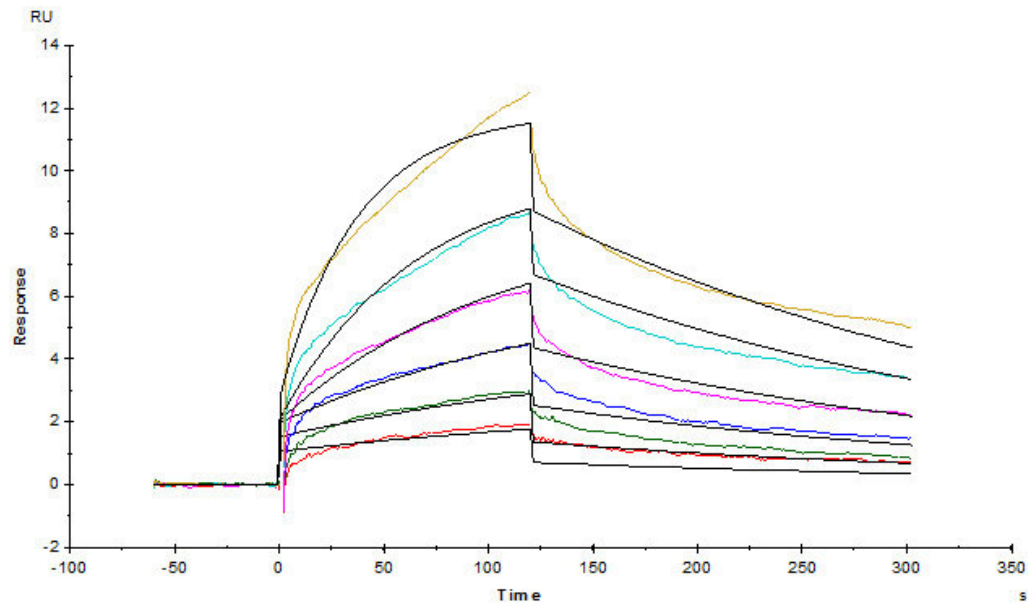


Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag Conc. (µg/mL)

Immobilized Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag (Cat. No. IL2-H4210) at 0.5 µg/mL (100 µL/well) can bind Monoclonal Anti-Human IL23A&IL12B P40 domain Antibody, Human IgG1 with a linear range of 0.05-2 ng/mL (QC tested).

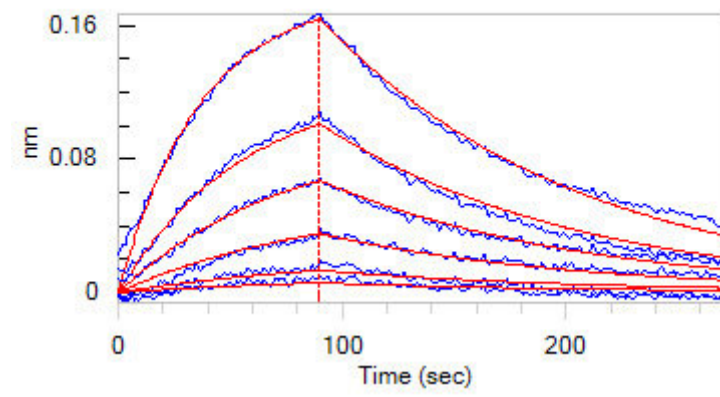
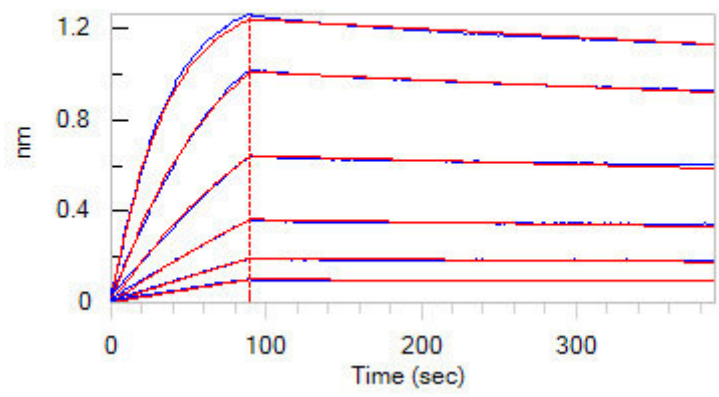
Immobilized Biotinylated Human IL-12 R beta 1, Fc,Avitag (Cat. No. ILB-H82F7) at 1 µg/mL (100 µL/well) on Streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate, can bind Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag (Cat. No. IL2-H4210) with a linear range of 0.039-0.625 µg/mL (Routinely tested).

Bioactivity-SPR



Human IL-12 R beta 1, Fc Tag (Cat. No. ILB-H5255) captured on CM5 chip via Anti-human IgG Fc antibodies surface can bind Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag (Cat. No. IL2-H4210) with an affinity constant of 2.06 nM as determined in a SPR assay (Biacore T200) (Routinely tested).

Bioactivity-BLI



Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag (MALS verified)

Catalog # IL2-H4210



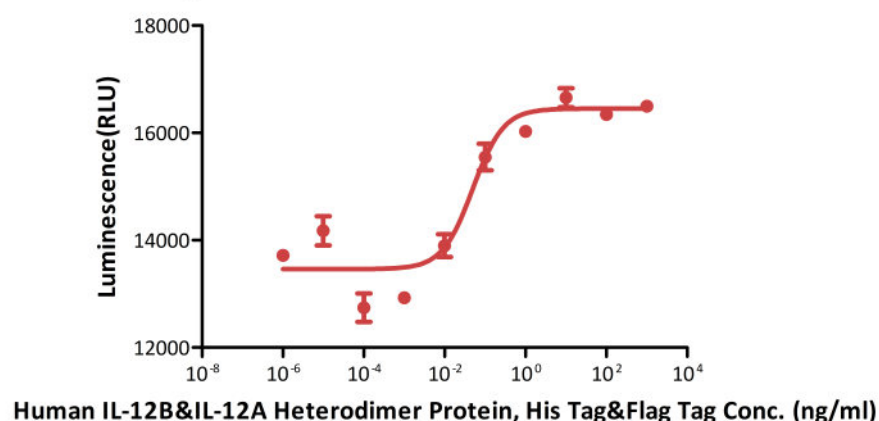
BIOSYSTEMS
Acro
Surprise Inside!

Loaded Anti-IL23A & IL12B MAb (P40 domain) on Protein A Biosensor, can bind Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag (Cat. No. IL2-H4210) with an affinity constant of 1.07 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Loaded Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag (Cat. No. IL2-H4210) on HIS1K Biosensor, can bind Human IL-12 R beta 1, Fc Tag (Cat. No. ILB-H5255) with an affinity constant of 92.2 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Bioactivity-Bioactivity CELL BASE

Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag stimulates the proliferation of PHA-P activated PBMC



Human IL-12B&IL-12A Heterodimer Protein, His Tag&Flag Tag (Cat. No. IL2-H4210) stimulates the proliferation of PHA-P activated PBMC. The ED50 for this effect is 0.05 ng/mL (Routinely tested).

Background

Interleukin 12 (IL12) is also known as p70, and is an interleukin that is naturally produced by dendritic cells, macrophages and human B-lymphoblastoid cells (NC-37) in response to antigenic stimulation. IL12 is a heterodimeric cytokine, containing IL-12A (p35) and IL-12B (p40). IL-12 is involved in the differentiation of naive T cells into Th1 cells. It is known as a T cell-stimulating factor, which can stimulate the growth and function of T cells. It stimulates the production of IFN- γ and TNF- α from T cells and NK cells, and reduces IL-4 mediated suppression of IFN- γ . IL-12 plays an important role in the activities of natural killer cells and T lymphocytes. IL-12 also has anti-angiogenic activity, which means it can block the formation of new blood vessels.

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