



**Synonym**

IL-23 alpha & IL-12 beta

**Source**

Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free(ILB-H52W5) 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**

Poly-his	IL23A (Arg 20 - Pro 189) Q9NPF7-1
	IL12B (Ile 23 - Ser 328) P29460-1

Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free, produced by co-expression of IL-23 alpha and IL-12 beta, has a calculated MW of 19.5 kDa (IL-23 alpha) and 34.7 kDa (IL-12 beta). Subunit IL-23 alpha is fused with a polyhistidine tag at the N-terminus and subunit IL-12 beta contains no tag. The reducing (R) protein migrates as 23 kDa (IL-23 alpha) & 40-45 kDa (IL-12 beta) 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**

>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**

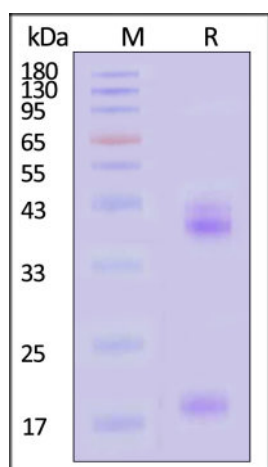
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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.

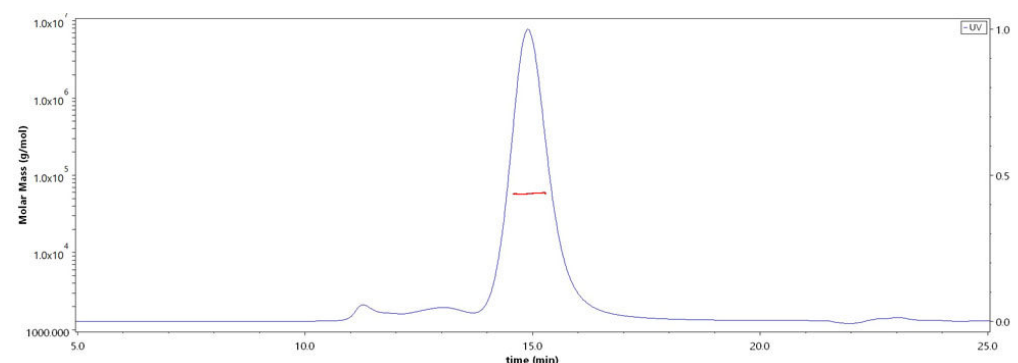
**SDS-PAGE**



Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

**Bioactivity-ELISA**

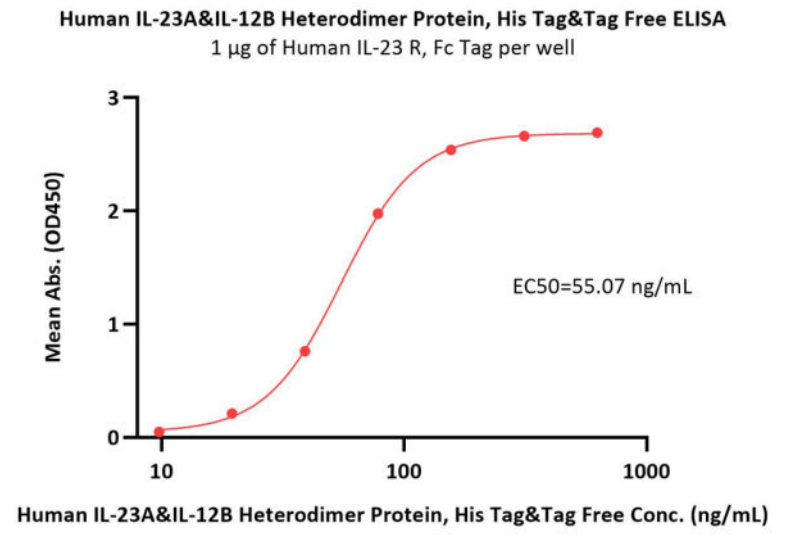
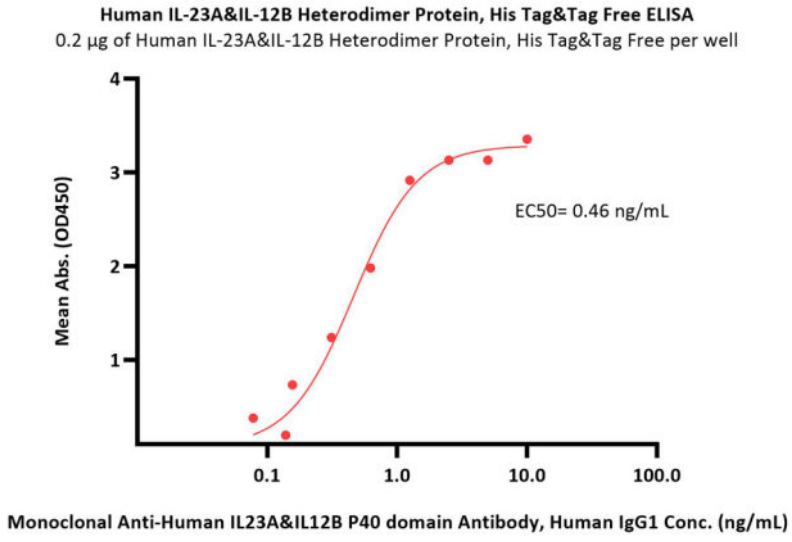
**SEC-MALS**



The purity of Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free (Cat. No. ILB-H52W5) is more than 85% and the molecular weight of this protein is around 50-75 kDa verified by SEC-MALS. [Report](#)

Discounts, Gifts,  
and more!

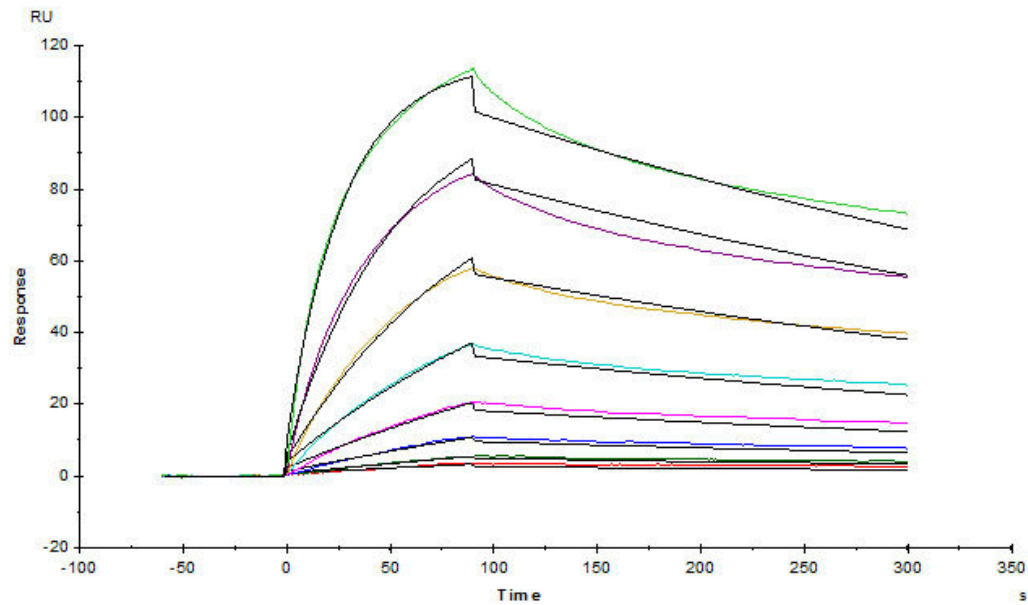




Immobilized Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free (Cat. No. ILB-H52W5) at 2 µg/mL (100 µL/well) can bind Monoclonal Anti-Human IL23A&IL12B P40 domain Antibody, Human IgG1 with a linear range of 0.1-1.25 ng/mL (QC tested).

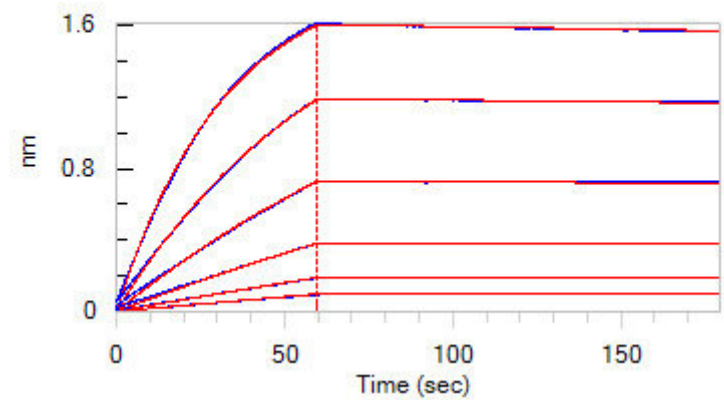
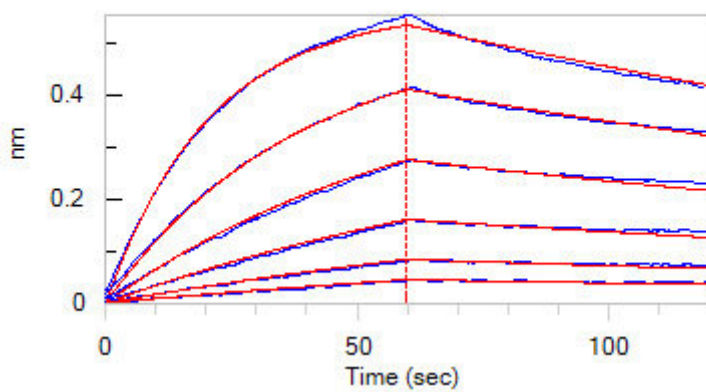
Immobilized Human IL-23 R, Fc Tag (Cat. No. ILR-H5254) at 10 µg/mL (100 µL/well) can bind Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free (Cat. No. ILB-H52W5) with a linear range of 20-78 ng/mL (Routinely tested).

**Bioactivity-SPR**



Captured Human IL-23 R, Fc Tag (Cat. No. ILR-H5254) on CM5 chip via anti-human IgG Fc antibodies surface can bind Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free (Cat. No. ILB-H52W5) with an affinity constant of 5.36 nM as determined in a SPR assay (Biacore T200) (Routinely tested).

**Bioactivity-BLI**



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

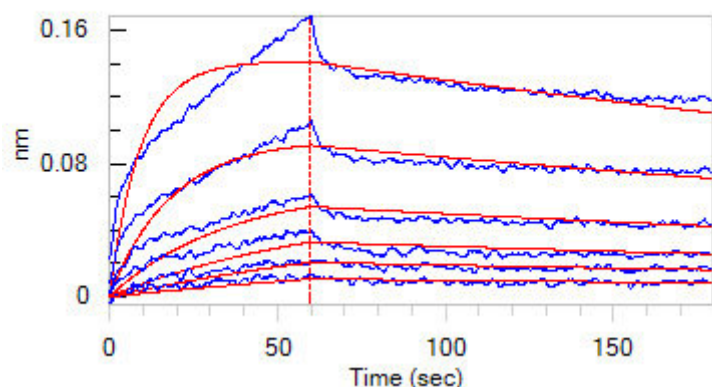
Catalog # ILB-H52W5



BIOSYSTEMS  
**Acro**

Loaded Human IL-23 R, Fc Tag (Cat. No. ILR-H5254) on Protein A Biosensor, can bind Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free (Cat. No. ILB-H52W5) with an affinity constant of 9.25 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

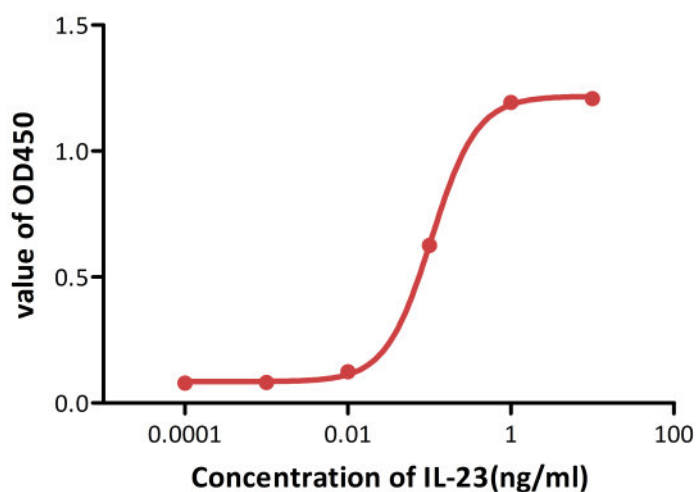
Loaded Anti-IL23A & IL12B MAb (P40 domain) on Protein A Biosensor, can bind Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free (Cat. No. ILB-H52W5) with an affinity constant of 0.588 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Human IL-12 R beta 1, Fc Tag (Cat. No. ILB-H5255) on Protein A Biosensor, can bind Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free (Cat. No. ILB-H52W5) with an affinity constant of 1.97 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

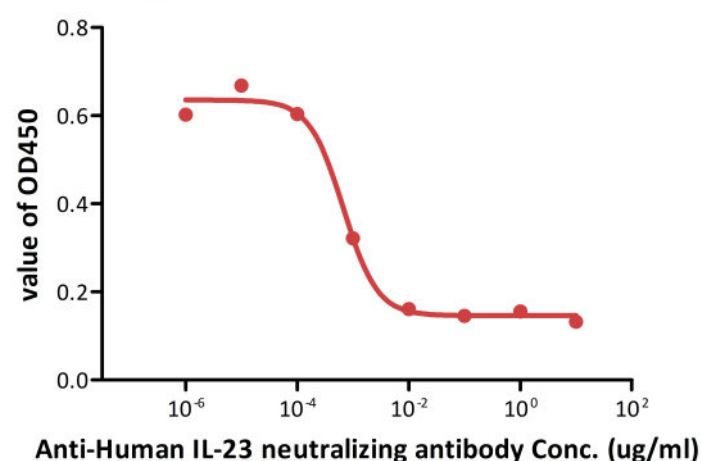
## Bioactivity-Bioactivity CELL BASE

### IL-23 stimulates production of IL-17 in spleen cells



Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free (Cat. No. ILB-H52W5) stimulates secretion of IL-17 by mouse spleen cells. The ED50 for this effect is 0.1055-0.1635 ng/mL (Routinely tested).

### Inhibitory experiment by cell based assay of Human IL-23 alpha & IL-12 beta Heterodimer Protein



Cell based assay shows that the secretion of IL-17 induced by Human IL-23A&IL-12B Heterodimer Protein, His Tag&Tag Free (Cat. No. ILB-H52W5) is inhibited by increasing concentration of the anti-human IL-23 neutralizing antibody. The IC50 is between 0.67-1.50 ng/mL (Routinely tested).

## Background

Interleukin-23 subunit alpha (IL-23 alpha) can associate 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

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