

Human IL-23 (IL23A & IL12B Heterodimer) Protein

Catalog Number: CT012-H08H



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

Interleukin-23 (IL23A & IL12B Heterodimer)

Protein Construction:

A DNA sequence encoding the IL23A (Q9NPF7) (Met 1-Pro 189) was fused with a polyhistidine tag at the C-terminus, constructed the plasmid 1; A DNA sequence encoding the p40 subunit of human IL12, termed as IL12B (NP_002178.2) (Met 1-Ser 328) was fused with a polyhistidine tag at the C-terminus, constructed the plasmid 2. The two plasmids were co-expressed and the IL23 heterodimer was purified.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio-Activity

1. Measured by its ability to bind biotinylated recombinant human IL12RB1 in a functional ELISA.

2. Measured by its binding ability in a functional ELISA. Immobilized human IL23A-His+IL12B-His at 10 µg/ml (100 µl/well) can bind human IL23R-Fc (Cat:13840-H02H). The EC50 of human IL23R-Fc (Cat:13840-H02H) is 0.28-0.66 µg/ml.

3. Measured by its binding ability in a functional ELISA. Immobilized human IL23A-His+IL12B-His at 10 µg/ml (100 µl/well) can bind Cynomolgus IL23R-Fc (Cat:90123-C02H). The EC50 of Cynomolgus IL23R-Fc (Cat:90123-C02H) is 0.14-0.35 µg/ml.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Arg 20 & Ile 23

Molecular Mass:

The recombinant IL23 heterodimer of human IL23A/IL12B comprises 498 (181 + 317) amino acids and has a calculated molecular mass of 56.3 (20.1 + 36.2) kDa. The apparent molecular mass of rhIL23 heterodimer is approximately 22 & 45 kDa respectively in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

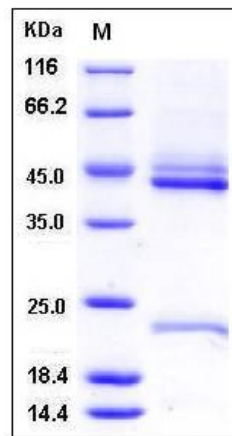
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Interleukin-23 subunit alpha, also known as IL-23 subunit alpha, IL-23-A, Interleukin-23 subunit p19, IL-23p19 and IL23A, is a secreted protein which belongs to the IL-6 superfamily. IL-23A associates with IL12B to form the IL-23 interleukin, an 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 an 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 may be responsible for autoimmune inflammatory diseases and may be important for tumorigenesis. Interleukin-12 subunit beta, also known as cytotoxic lymphocyte maturation factor 40 kDa subunit, NK cell stimulatory factor chain 2, NKSF2 and IL12B, is secreted protein which belongs to the type I cytokine receptor family and Type 3 subfamily. IL12B / NKSF2 is a cytokine that can act as a growth factor for activated T and NK cells, enhance the lytic activity of NK/lymphokine-activated killer cells, and stimulate the production of IFN-gamma by resting PBMC. IL12B / NKSF2 associates with IL-23A to form the IL-23 interleukin, an heterodimeric cytokine which functions in innate and adaptive immunity. IL-23 may constitute with IL-17 an acute response to infection in peripheral tissues.

References

1. Altare F., et al., 1998, J. Clin. Invest. 102: 2035-40.
2. Oppmann B., et al., 2000, Immunity 13: 715-25.
3. Picard C., et al., 2002, Am. J. Hum. Genet. 70: 336-48.
4. Parham C., et al., 2002, J. Immunol. 168: 5699-708.
5. Pirhonen J., et al., 2002, J. Immunol. 169: 5673-8.

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