

## Human IL-23 alpha & Mouse IL-12 beta Heterodimer Protein (HEK293, His)

<b>Cat. No.:</b>	HY-P74874
<b>Synonyms:</b>	IL-23 p19/IL-12 p40; IL23; IL-23A; Interleukin 23; SGRF
<b>Species:</b>	Mouse;Human
<b>Source:</b>	HEK293
<b>Accession:</b>	Q9NPF7 (R20-P189)&P43432 (M23-S335)
<b>Gene ID:</b>	51561&16160
<b>Molecular Weight:</b>	Approximately 23.18 & 40-50 kDa

### PROPERTIES

#### AA Sequence

RAVPGGSSPA	WTQCQQLSQK	LCTLAWSAHP	LVGHMDLREE
GDEETTNDVP	HIQCGDGDGP	QGLRDNSQFC	LQR IHQGLIF
YEKLLGSDIF	TGEPSSLPDS	PVGQLHASLL	GLS QLLQPEG
HHWETQQIPS	LSPSQPWQRL	LLRFKILRSL	QAFVAVAAARV
FAHGAAATLSP	&MWELEKD VY	VVEVDWTPDA	PGETVNLTC D
TPEEDDITWT	SDQRHGVIGS	GKTLTITVKE	FLDAGQYTCH
KGGETLSHSH	LLLHKKENGI	WSTEILKNFK	NKTFLKCEAP
NYSGRFTCSW	LVQRNMDLKF	NIKSSSSSPD	SRAVTCGMAS
LSAEKVTLDQ	RDYEKYSVSC	QEDVTCPTAE	ETLPIELALE
ARQQNKYENY	STSF FIRDII	KPDPPKNLQM	KPLKNSQVEV
SWEYPDSWST	PHSYFSLKFF	VRIQRKKEKM	KETE EGCNQK
GAFLEK TST	EVQCKGGNVC	VQAQDRYYNS	SCSKWACVPC
R V R S			

**Biological Activity** Measured by its ability to induce IL-17 secretion by CTLL-2 cells. The ED50 for this effect is 2.703 ng/mL, corresponding to a specific activity is  $3.7 \times 10^5$  U/mg.

**Appearance** Lyophilized powder.

**Formulation** Lyophilized from a 0.2  $\mu$ m filtered solution of PBS, pH 7.4.

**Endotoxin Level** <1 EU/ $\mu$ g, determined by LAL method.

**Reconstitution** It is not recommended to reconstitute to a concentration less than 100  $\mu$ g/mL in ddH<sub>2</sub>O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).

**Storage & Stability** Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

**Shipping** Room temperature in continental US; may vary elsewhere.

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## DESCRIPTION

### Background

IL-23, in collaboration with IL12B, forms the pro-inflammatory cytokine IL-23, playing diverse roles in both innate and adaptive immunity. Released by antigen-presenting cells such as dendritic cells or macrophages, IL-23 binds to a heterodimeric receptor complex comprising IL12RB1 and IL23R, initiating a cascade involving JAK2 and TYK2 activation. These kinases phosphorylate the receptor, creating a docking site for the subsequent phosphorylation of STAT3 and STAT4. This process activates multiple pathways, including p38 MAPK or NF-kappa-B, fostering the production of pro-inflammatory cytokines, such as interleukin-17A/IL17A. Additionally, IL-23 actively participates in the early and effective clearance of intracellular bacteria. Notably, IL-23 promotes the expansion and survival of T-helper 17 cells, a CD4-positive helper T-cell subset known for producing IL-17, alongside other IL-17-producing cells. The heterodimeric association of IL-23 with IL12B, known as interleukin IL-23, is disulfide-linked. Furthermore, IL-23 interacts with IL23R, facilitating the recruitment of IL12RB1.

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA