

## IL-23 alpha (170a.a) & IL-12 beta (306a.a) Heterodimer Protein, Human (HEK293, His-Avi)

Cat. No.:	HY-P77704
Synonyms:	IL23 alpha; IL12 beta; IL23 alpha&IL12 beta
Species:	Human
Source:	HEK293
Accession:	Q9NPF7 (R20-P189)&P29460 (I23-S328)
Gene ID:	51561&3593
Molecular Weight:	Approximately 20 kDa

### PROPERTIES

<b>Biological Activity</b>	Immobilized Human IL-23 alpha&IL-12 beta, His Tag at 1µg/ml (100µl/Well) on the plate. Dose response curve for Anti-IL-23 Antibody, hFc Tag with the EC <sub>50</sub> of 6.0ng/ml determined by ELISA.
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

#### Background

IL-23 alpha and IL-12 beta, also known as IL23p19 and IL12p40, respectively, and composing IL-23 in a heterodimerization manner, exerts proinflammatory effects and promotes angiogenesis<sup>[1][5]</sup>.

IL-23 belongs to the IL-12 cytokine family together with IL-12 p35/p40, IL-27 EBI3/p28 and IL-35 EBI3/p35, and is produced by various immune cells such as dendritic cells and macrophages upon Toll-like receptor signaling in tissues<sup>[3]</sup>.

IL-23 has a preference expression on memory CD4(+) T cells, and activates the Jak-Stat signaling cascade. IL-23 leads to IL-23 receptor phosphorylation and forms a docking site to trigger phosphorylation signal of STAT3 and STAT4<sup>[1]</sup>.

IL-23 is a key factor perpetuating Th17 cell activation and cytokine production by binding IL-23 receptor to produce Th17 cytokines such as IL17 A, IL-17 F and IL-22<sup>[2]</sup>.

IL-23 also acts function on natural killer cells, results interferon-γ secretion increasing and enhances antibody-dependent cellular cytotoxicity<sup>[4]</sup>.

The sequence of amino acids in IL-23 alpha proteins of human shows high similarity with Cynomolgus (97.88%) and is very

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different from mouse (74.60%) or rat (79.37%), while the sequence of IL-12 beta proteins of human is very different from mouse (69.04%) and rat (69.04%).

IL-23 facilitates development of inflammation in numerous other models of immune pathology where IL-12 had previously been implicated, including models of arthritis, intestinal inflammation, and psoriasis<sup>[6][7][8]</sup>.

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## REFERENCES

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

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