

IL-12 beta Protein, Human (HEK293, Fc)

Cat. No.:	HY-P73160
Synonyms:	IL-12; Interleukin 12; Interleukin-12 subunit alpha; IL-12A; Cytotoxic lymphocyte maturation factor 35 kDa subunit; CLMF p35; IL-12 subunit p35; Interleukin-12 subunit beta; IL-12B; Cytotoxic lymphocyte maturation factor 40 kDa subunit; CLMF p40; IL-12 subunit p40
Species:	Human
Source:	HEK293
Accession:	P29460/NP_002178.2 (I23-S328)
Gene ID:	3593
Molecular Weight:	Approximately 61.4 kDa

PROPERTIES

AA Sequence	<pre> I W E L K K D V Y V V E L D W Y P D A P G E M V V L T C D T P E E D G I T W T L D Q S S E V L G S G K T L T I Q V K E F G D A G Q Y T C H K G G E V L S H S L L L L H K K E D G I W S T D I L K D Q K E P K N K T F L R C E A K N Y S G R F T C W W L T T I S T D L T F S V K S S R G S S D P Q G V T C G A A T L S A E R V R G D N K E Y E Y S V E C Q E D S A C P A A E E S L P I E V M V D A V H K L K Y E N Y T S S F F I R D I I K P D P P K N L Q L K P L K N S R Q V E V S W E Y P D T W S T P H S Y F S L T F C V Q V Q G K S K R E K K D R V F T D K T S A T V I C R K N A S I S V R A Q D R Y Y S S S W S E W A S V P C S </pre>
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ 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.

DESCRIPTION

Background	<p>IL-12 beta Protein, as known as IL12 p40 subunit or IL-12B, heterodimerizes with the IL-12 p35 subunit (IL-12A) to form IL-12 and with the IL23 p19 subunit to form IL-23, exerting different regulating functions^[1].</p> <p>IL-12 and IL23 belong to IL-12 family, are involved in proinflammatory responses and expressed by activated macrophages that serve as an essential inducer of Th1 cells development^[2].</p>
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IL-12 signals via IL-12R β 1 and IL-12R β 2 mediated by p-STAT4, whereas IL-23 signals via IL-12R β 1 and IL-23R mediated by p-STAT1 and p-STAT3^[3].

The sequence of amino acids in IL-12 beta proteins of human is very different from mouse (69.04%) and rat (69.04%). Interleukin 12 (IL-12) family have been known to be inflammatory factors, induce autoimmune inflammation and thus may be responsible for autoimmune inflammatory diseases and may be important for tumorigenesis^[4].

REFERENCES

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- [4]. Tait Wojno ED, Hunter CA, Stumhofer JS. The Immunobiology of the Interleukin-12 Family: Room for Discovery. *Immunity*. 2019 Apr 16;50(4):851-870.
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- [6]. Krämer B, et al. Do lambda-IFNs IL28A and IL28B act on human natural killer cells? *Proc Natl Acad Sci U S A*. 2011 Aug 23;108(34):E519-20; author reply E521-2.
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Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

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