

## IL-12 beta Protein, Rabbit (HEK293, His)

Cat. No.:	HY-P74836
Synonyms:	Interleukin-12 subunit beta; IL-12B; IL-12 subunit p40; CLMF p40
Species:	Rabbit
Source:	HEK293
Accession:	G1TBD7/XP_002710393.1 (I23-N324)
Gene ID:	100354852
Molecular Weight:	Approximately 43-47 kDa due to the glycosylation

### PROPERTIES

AA Sequence	<p>I W E L E K D V Y V    V E L D W Y P D A P    G E T V V L T C D T    S E E D G I T W T S</p> <p>E Q S N K V L G S G    K T L T I L V K E F    G D A G Q Y T C H K    G D K V L G H S K V</p> <p>L L H K K E D G I W    S T D I L K D Q K E    P K S K T F L K C E    A K N Y S G H F T C</p> <p>W W L T A I S R D V    K F S V K S N R G S    S D P Q G V T C G V    P E R V S V N H T E</p> <p>Y K Y S V E C Q E D    N A C P A A E E S L    H L E V M L D A I H    K L K Y E N Y T S S</p> <p>F F I R D I I K P D    P P Q N L Q M K P L    K N S R H V E V S W    E Y P D T W S T P H</p> <p>S Y F S L T F C V Q    V Q N K N K K E K K    D R L C V D K T S A    T V M C H K D A K I</p> <p>R V Q A R D R Y Y S    S S W S E W A F V S    C N</p>
Biological Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human IL-12R beta1 is present at 1 µg/mL, can bind Recombinant Human IL-12 beta. The ED <sub>50</sub> for this effect is 5.816 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, 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 <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.

### DESCRIPTION

Background	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
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and with the IL23 p19 subunit to form IL-23, exerting different regulating functions<sup>[1]</sup>.

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<sup>[2]</sup>.

IL-12 signals via IL-12R $\beta$ 1 and IL-12R $\beta$ 2 mediated by p-STAT4, whereas IL-23 signals via IL-12R $\beta$ 1 and IL-23R mediated by p-STAT1 and p-STAT3<sup>[3]</sup>.

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<sup>[4]</sup>.

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## REFERENCES

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[1]. Lu X. Impact of IL-12 in Cancer. *Curr Cancer Drug Targets*. 2017;17(8):682-697.

[2]. Gunsten S, et al. IL-12 p80-dependent macrophage recruitment primes the host for increased survival following a lethal respiratory viral infection. *Immunology*. 2009 Apr;126(4):500-13.

[3]. Gotthardt D, Trifinopoulos J, Sexl V, Putz EM. JAK/STAT Cytokine Signaling at the Crossroad of NK Cell Development and Maturation. *Front Immunol*. 2019 Nov 12;10:2590.

[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.

[5]. Subbian S, et al. Molecular immunologic correlates of spontaneous latency in a rabbit model of pulmonary tuberculosis. *Cell Commun Signal*. 2013 Feb 28;11(1):16.

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**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

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