

IL-12B Protein, Human, Recombinant (His)

General Information

Synonyms:	IL-12B;IMD28;CLMF;CLMF2;NKSF2;IL12 p40;IMD29;interleukin 12B;NKSF
Protein Construction:	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. Predicted N terminal: Ile 23
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P29460
Molecular Weight:	36.2 kDa (predicted); 40-50 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its ability to bind biotinylated recombinant human IL12RB1 in a functional ELISA.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with PBS, pH 7.4 to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Subunit beta of interleukin 12 (also known as natural killer cell stimulatory factor 2, or cytotoxic lymphocyte maturation factor 2, p40) (IL12B) is a subunit of human interleukin 12. IL12B/IL-12B is a cytokine that acts on T and natural killer cells and has a broad array of biological activities. Interleukin 12 is a disulfide-linked heterodimer composed of the 40 kD cytokine receptor-like subunit encoded by this gene, and a 35 kD subunit encoded by IL12A. IL12B/IL-12B is expressed by activated macrophages that serve as an essential inducer of Th1 cells

development. This cytokine is important for sustaining a sufficient number of memory/effector Th1 cells to mediate long-term protection to an intracellular pathogen. Overexpression of this gene was observed in the central nervous system of patients with multiple sclerosis (MS), suggesting a role of this cytokine in the pathogenesis of the disease. The promoter polymorphism of this gene has been reported to be associated with the severity of atopic and non-atopic asthma in children. IL12B/IL-12B associates with IL23A to form the IL-23 interleukin, a heterodimeric cytokine that functions in innate and adaptive immunity. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

Reference

Taoufik Y, et al. (1997) Human immunodeficiency virus gp120 inhibits interleukin-12 secretion by human monocytes: an indirect interleukin-10-mediated effect. *Blood*. 89 (8): 2842-8.

Fantuzzi L, et al. (1996) Induction of interleukin-12 (IL-12) by recombinant glycoprotein gp120 of human immunodeficiency virus type 1 in human monocytes/macrophages: requirement of gamma interferon for IL-12 secretion. *J Virol*. 70 (6): 4121-4.

Aragane Y, et al. (1995) IL-12 is expressed and released by human keratinocytes and epidermoid carcinoma cell lines. *J Immunol*. 153 (12): 5366-72.

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