Data Sheet (Cat.No.TMPY-03879)

TargetMol

IL-35 Protein, Human, Recombinant

General Information

Synonyms:	P35;NFSK;NKSF1;IL-12A;Interleukin-35;interleukin 12A;CLMF;IL-35
Protein Construction:	A DNA sequence encoding the p35 subunit of human IL12, termed as IL12A (P29459-1) (Met1-Ser219) was fused with a C-terminal Fc region of human IgG1 tag followed by a His tag, constructed the plasmid 1; A DNA sequence encoding the human IL27B, (NP_005746.2) (Met1-Lys229) was fused with a C-terminal Fc region of human IgG1 tag followed by a FLAG tag, constructed the plasmid 2. The two plasmids were co-expressed and the heterodimer was purified. Predicted N terminal: Arg 23 & Arg 21
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P29459-1
Molecular Weight:	102 kDa (predicted); 60 & 63 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % 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:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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

IL12A is a subunit of a cytokine that acts on T and natural killer cells and has a broad array of biological activities. The cytokine is a disulfide-linked heterodimer composed of the 35-kD subunit encoded by this gene, and a 40-kD subunit that is a member of the cytokine receptor family. IL12A, together with IL27B, form a disulfide-linked heterodimer: IL12A&IL27B. IL12A&IL27B is required for the T-cell-independent induction of IFN-gamma and is important for the differentiation of both Th1 and Th2 cells. The responses of lymphocytes to this cytokine are mediated by the activator of transcription protein STAT4. Nitric oxide synthase 2A (NOS2A/NOS2) is found to be required for the signaling process of IL12A&IL27B in innate immunity.

Reference

Wolf S.F.,et al.,(1991), Cloning of cDNA for natural killer cell stimulatory factor, a heterodimeric cytokine with multiple biologic effects on T and natural killer cells. J. Immunol. 146:3074-3081.
Gubler U.,et al., (1991), Coexpression of two distinct genes is required to generate secreted bioactive cytotoxic lymphocyte maturation factor.Proc. Natl. Acad. Sci. U.S.A. 88:4143-4147.
Batten M.,et al.,(2007), The biology and therapeutic potential of interleukin 27.J. Mol. Med. 85:661-672.

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