Data Sheet (Cat.No.TMPY-03309)

TargetMol

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

General Information

Synonyms:	interleukin 12B
Protein Construction:	A DNA sequence encoding the rat IL12B (G3V9Y5) (Met1-Ser335) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Met 23
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	G3V9Y5
Molecular Weight:	37.2 kDa (predicted); 47 and 45 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized rat IL12B at 10 μg/ml (100 μl/well) can bind biotinylated mouse IL12RB2 . The EC50 of biotinylated mouse IL12RB2 is 0.6-1.5 μg/ml.
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:

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

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 ImmunotherapyImmune CheckpointImmunotherapyTargeted 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.