

IL-24 Protein, Human, Recombinant (His)

General Information

Synonyms:	C49A;IL10B;MOB5;ST16;MDA7;FISP;interleukin 24
Protein Construction:	A DNA sequence encoding the human IL24 isoform 3 (NP_001172085.1) (Met 1-Leu 207) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 53
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q13007-2
Molecular Weight:	19.5 kDa (predicted); 35 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured in a cell proliferation assay using BaF3 mouse pro-B cells transfected with human IL-20 R α and human IL-20 R β . The EC50 for this effect is typically 0.05-0.25 ng/mL.
Purity:	> 94 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m 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 sterile deionized water 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. <small>Actual storage temperature shall be subject to the COA.</small>

Shipping:

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

Protein Background

Interleukin-24 (IL-24) also known as Melanoma differentiation-associated gene 7 protein (MDA-7) is a member of the IL10 family of cytokines. IL-24/MDA-7/IL24 can induce apoptosis selectively in various cancer cells. Overexpression of IL-24 leads to elevated expression of several GADD family genes, which correlates with the induction of apoptosis. The phosphorylation of mitogen-activated protein kinase 14 (MAPK7/P38), and heat shock 27kDa protein 1 (HSPB2/HSP27) are found to be induced by this gene in melanoma cells, but not in normal

immortal melanocytes. Human IL-24/MDA-7/IL24 is secreted by activated peripheral blood mononuclear cells and is the ligand for two heterodimeric receptors, IL-22R1/IL-20R2 and IL-20R1/IL-20R2. Northern blot analysis revealed IL-24/MDA-7/IL24 expression in human tissues associated with the immune system such as the spleen, thymus, peripheral blood leukocytes, and normal melanocytes. IL-24/MDA-7/IL24 binding to either its endogenous receptors on human keratinocytes or to ectopically expressed receptors on baby hamster kidney cells leads to activation of the signal transducers and activators of transcription.

Reference

- Wang M,et al.. (2002) Interleukin 24 (MDA-7/MOB-5) signals through two heterodimeric receptors, IL-22R1/IL-20R2 and IL-20R1/IL-20R2. *J Biol Chem.* 277(9): 7341-7.
- Sauane M,et al.. (2003) MDA-7/IL-24: novel cancer growth suppressing and apoptosis inducing cytokine. *Cytokine Growth Factor Rev.* 14(1): 35-51.
- Sarkar D,et al.. (2002) mda-7 (IL-24) Mediates selective apoptosis in human melanoma cells by inducing the coordinated overexpression of the GADD family of genes by means of p38 MAPK. *Proc Natl Acad Sci U S A.* 99(15): 10054-9.

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