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Recombinant Mouse IL-11 Protein

Catalog No.: RP02904 Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
Mouse	16156	P47873

Tags
No tag

Synonyms
IL11; IL-11; IL-11Oprelvekin; interleukin 11; interleukin-11; Oprelvekin

Product Information

Source	Purification
E. coli	≥ 95% as determined by SDS-PAGE.

Calculated MW	Observed MW
19.15 kDa	20-25 kDa

Endotoxin
< 1 EU/μg of the protein by LAL method.

Formulation
Lyophilized from a 0.22 μm filtered solution of 20mM Tris, 250mM NaCl, pH9.0.

Reconstitution
Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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Background

IL-11 (Interleukin 11) is a pleiotropic cytokine in the IL-6 family, which also includes LIF, CNTF, Oncostatin M, Cardiotrophin-1, IL-27 and IL-31 (1-4). In humans, IL-11 was also independently discovered as an adipogenesis inhibitory factor (AGIF) (3). The mouse IL-11 cDNA encodes a 199 amino acid (aa) precursor, which generates a 178 aa, 19 kDa mature unglycosylated protein. Mature mouse IL-11 shares 88%, 97%, and 89% aa sequence identity with human, rat and canine IL-11, respectively. IL-11 is secreted by osteoblasts, synoviocytes, fibroblasts, chondrocytes, intestinal myofibroblasts, and trophoblasts, among other cell types (1). It is found in the plasma mainly during inflammation, such as that associated with viral infection, cancer, or inflammatory arthritis, and is considered to be primarily anti?inflammatory (1). It stimulates hematopoiesis and thrombopoiesis, regulates macrophage differentiation, and confers mucosal protection in the intestine (1). It has also been found to enhance T cell polarization toward Th2, promote B cell IgG production, increase osteoclast bone absorption, protect endothelial cells from oxidative stress, and regulate epithelial proliferation and apoptosis (1). IL-11 synergizes with several other cytokines to produce these effects, and its effects overlap with those of IL-6 (1). IL-11 receptor activation requires formation of a complex of two IL-11 molecules with two molecules of the ligand-binding IL-11 R alpha subunit and two molecules of the ubiquitously expressed cell signaling beta subunit, gp130 (5). A soluble form of IL-11 R alpha can bind IL-11 and either form a signaling complex with gp130 on the cell surface, or inhibit cell surface IL-11 R alpha /gp130 signaling (6-8).

Basic Information

Description
Recombinant mouse IL-11 Protein is produced by *E. coli* expression system. The target protein is expressed with sequence (Pro22-Leu199) of mouse IL-11 (Accession #) fused with additional amino acid free.

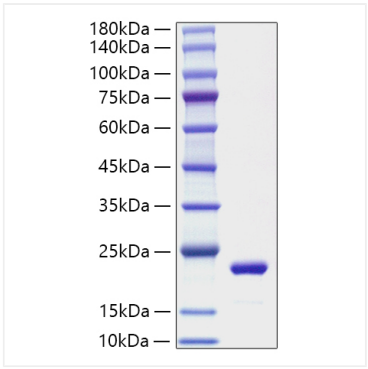
Bio-Activity
Measured in a cell proliferation assay using TF-1 Human erythroleukemic cells. The ED_{50} for this effect is 2.64-10.56 ng/mL, corresponding to a specific activity of 9.47×10^{4}~3.79×10^{5} units/mg.

Shipping
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

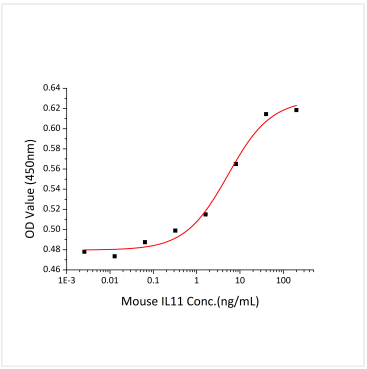
Storage
Store at -20℃.Store the lyophilized protein at -20℃ to -80 ℃ up to 1 year from the date of receipt.
After reconstitution, the protein solution is stable at -20℃ for 3 months, at 2-8℃ for up to 1 week.
Avoid repeated freeze/thaw cycles.

Operational Notes
For your safety and health, please wear a lab coat and disposable gloves for handling.

Validation Data



Recombinant Mouse IL-11 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



Recombinant Mouse IL-11 promotes the proliferation assay using TF-1 Human erythroleukemic cells. The ED_{50} for this effect is 2.64-10.56 ng/mL, corresponding to a specific activity of 9.47×10^{4}~3.79×10^{5} units/mg.