

General Information

Synonyms	IL11; IL-11; IL-11Oprelvekin; interleukin 11; interleukin-11; Oprelvekin
Accession #	P47873
Source	Human embryonic kidney cell, HEK293-derived mouse IL-11 protein
	Gly23-Leu199
Predicted Molecular weight	19.1 kDa

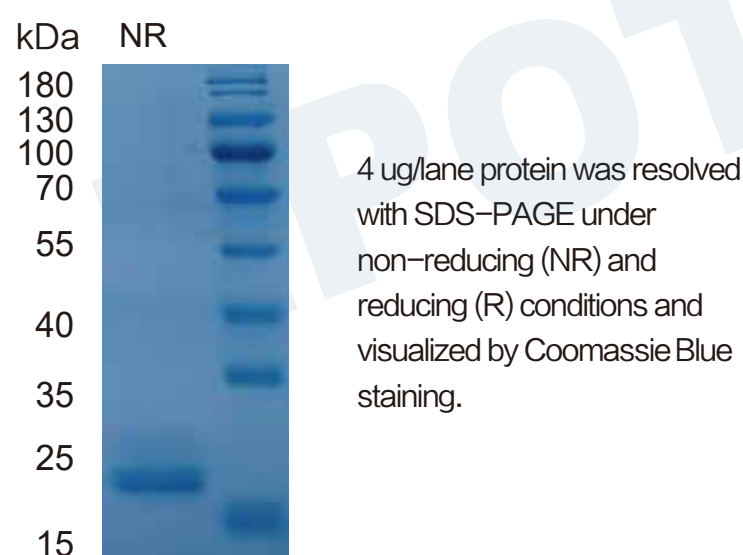
Components and Storage

Formulation	Solution protein. Dissolved in sterile PBS buffer. This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 ° C as supplied.
Shipping	Shipping with dry ice

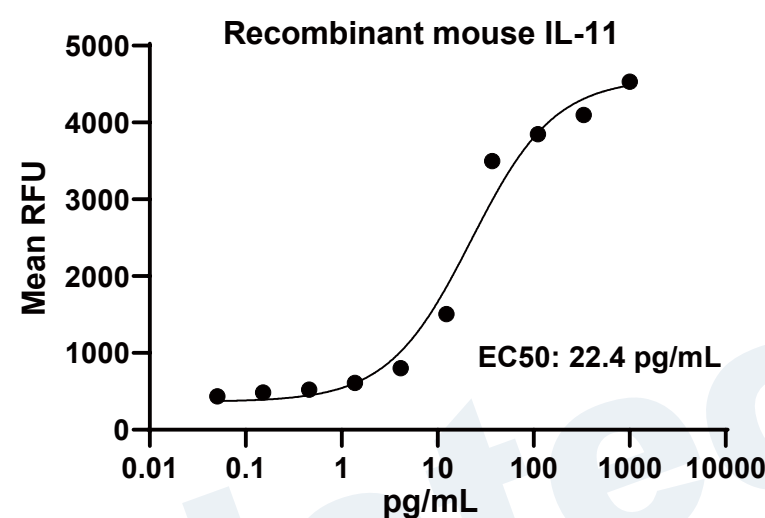
Quality

Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in a cell proliferation assay using T11 mouse plasmacytoma cells. The EC50 for this effect is 15-31.2 pg/mL.

SDS-PAGE



Bioactivity



Recombinant mouse IL-11 (Catalog # MF-1011) stimulates cell proliferation of the T11 mouse plasmacytoma cells

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).

Reference

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