Recombinant Mouse IL-11

Catalog Number: 11585-IL

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived mouse IL-11 protein Pro22-Leu199 Accession # P47873.1
N-terminal Sequence Analysis	Pro22
Predicted Molecular Mass	19

SPECIFICATIONS

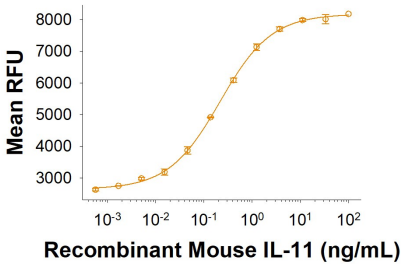
SDS-PAGE	20 kDa, under reducing conditions.
Activity	Measured in a cell proliferation assay using T11 mouse plasmacytoma cells. Nordan, R.P. *et al.* (1987) J. Immunol. **139**:813. The ED50 for this effect is less than 0.750 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS and EDTA with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute the 20 µg size at 200 µg/mL in PBS. Reconstitute all other sizes at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

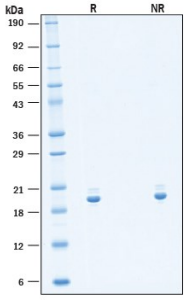
DATA

Bioactivity



Recombinant Mouse IL-11 Protein Bioactivity. Recombinant Mouse IL-11 Protein (Catalog # 11585-IL) stimulates T11 mouse plasmacytoma cell proliferation. The ED_{50} for this effect is less than 0.750 ng/mL.

SDS-PAGE



Recombinant Mouse IL-11 Protein SDS-PAGE. 2 µg/lane of Recombinant Mouse IL-11 Protein (Catalog # 11585-IL) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 20 kDa under reducing conditions.

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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 α subunit and two molecules of the ubiquitously expressed cell signaling β subunit, gp130 (5). A soluble form of IL-11 R α can bind IL-11 and either form a signaling complex with gp130 on the cell surface, or inhibit cell surface IL-11 R α/gp130 signaling (6-8).

References:

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3. Kawashima, I. *et al.* (1991) FEBS Lett. **283**:199.
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5. Barton, V.A. *et al.* (2000) J. Biol. Chem. **275**:36197.
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7. Baumann, H. *et al.* (1996) J. Immunol. **157**:284.
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