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Product Information

Interleukin-11, mouse
recombinant, expressed in *Escherichia coli*

Catalog Number **I9279**
Storage Temperature –20 °C

Synonym: IL-11

Product Description
Recombinant mouse Interleukin-11 is produced from a DNA sequence encoding the mature mouse IL-11 protein.[1] It is an N-terminal methionyl form containing 178 amino acid residues with a predicted molecular mass of ~19 kDa. Recombinant mouse IL-11 preparations also contain an N-terminal truncated form of mouse IL-11 that lacks three N-terminal residues. IL-11 does not contain any cysteine residues or potential glycosylation sites.

Interleukin-11, a pleiotropic cytokine, was originally identified in the conditioned medium of an IL-1α stimulated primate bone marrow stromal cell line (PU-34) as a mitogen for the IL-6-responsive murine plasmacytoma cell line (T1165).

Interleukin-11 affects growth and differentiation of both hematopoietic and nonhematopoietic cells. It acts on hematopoietic progenitor cells and stromal cells.[1] IL-11 will enhance the proliferation of IL-6 dependent plasmacytoma cells.[2] It stimulates the production of erythrocytes[3] and megakaryocytes.[2] Synergistically with IL-3, IL-4, and SCF (stem cell factor), IL-11 is able to shorten the G_0 period of early hematopoietic progenitors.[4] IL-11 stimulates the synthesis of acute phase protein secretion in the liver[5] and T cell-dependent development of specific immunoglobulin-secreting B cells. It was also discovered to be an adipogenesis inhibitory factor (AGIF).[6]

IL-11 exerts its biological activities through binding to a specific high-affinity receptor complex consisting of an IL-11 receptor α chain and gp130.

The product is lyophilized from a 0.2 μm filtered solution of PBS, pH 7.3, with 5% trehalose and containing 50 μg of bovine serum albumin per 1 μg of cytokine.

The bioactivity of recombinant mouse Interleukin-11 is measured in a cell proliferation assay using T11 cells, a subline of the IL-6-dependent mouse plasmacytoma cell-line T1165.85.2.1, that has been adapted to grow in IL-11.[7]

The ED_{50} for this effect is typically 0.05–0.15 ng/ml.

The ED_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Purity: >97% (SDS-PAGE, visualized by silver stain)

Endotoxin level: <0.1 ng/μg protein
(LAL [Limulus amebocyte lysate] method)

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Reconstitute the contents of the vial using sterile phosphate buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of ≥5 μg/ml.

Storage/Stability
Store the product at –20 °C. Upon reconstitution, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in a “frost-free” freezer, is not recommended.

References

1. Kawashima, I., et al., *Progress in Growth Factor Research*, **4**, 191 (1992).
2. Paul, S., et al., *Proc. Natl. Acad. Sci. USA*, **87**, 7512 (1990).
3. Quesniaux, V., et al., *Blood*, **80**, 1218 (1992).
4. Musashi, M., et al., *Proc. Natl. Acad. Sci. USA*, **88**, 765 (1991).
5. Baumann, H., and Schendel, P., *J. Biol. Chem*., **266**, 20424 (1991).
6. Kawashima, I., et al., *FEBS Lett*., **283**,199 (1991).
7. Nordan, R., et al., *J. Immunol*., **139**, 813 (1987).

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