3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

INTERLEUKIN-11 (IL-11)
Human, Recombinant
Expressed in *Sf* 21 cells

Product Number **I 2406**

Product Description

Recombinant Human Interleukin-11 (IL-11) is produced from a DNA sequence encoding human IL-11 precursor protein (199 amino acid).[1] Recombinant mature IL-11 (178 amino acid residues) has a predicted molecular mass of approximately 19 kDa. In SDS-PAGE, it migrates with an apparent molecular mass of 23 kDa. IL-11 contains no cysteine residues or potential glycosylation sites. Human IL-11 is active on mouse cells.

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 on 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.[1] It stimulates the production of erythrocytes[2] and megakaryocytes.[1] 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.[3] IL-11 stimulates the synthesis of acute phase protein secretion in the liver[4] and T cell-dependent development of specific immunoglobulin-secreting B cells. It was also discovered to be an adipogenesis inhibitory factor (AGIF).[5]

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.

Reagent

Recombinant Human Interleukin-11 (IL-11) is supplied as approximately 5 µg of protein lyophilized from a 0.2 µm filtered solution in phosphate buffered saline (PBS) and 1 mM EDTA containing 0.25 mg of bovine serum albumin.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate buffered saline (PBS) containing at least 0.1% bovine serum albumin. Prepare a stock solution of no less than 1 µg/ml.

Storage/Stability

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

Product Profile

Recombinant Human 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 in IL-11).[6]

The ED_{50} for this effect is typically 0.06 to 0.24 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% as determined by SDS-PAGE, visualized by silver stain.

Endotoxin level is < 0.1 ng/µg protein as determined by the LAL (Limulus amebocyte lysate) method.

References

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

KAA 08/01