Cytokines

Mouse Recombinant IL-11

Interleukin 11

Catalog #	78026.1	10 µg
	78026	100 µg
	78026.2	500 µg
	78026.3	1000 µg

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Product Description

Interleukin 11 (IL-11) is a pleiotropic cytokine with effects on various tissues including the bone marrow, brain, and intestinal mucosa (Du & Williams). It belongs to the IL-6 family of cytokines that share a common signal transducer, gp130. Culture of mouse bone marrow cells with IL-11 in combination with IL-3, IL-6, and stem cell factor induces significant expansion and proliferation of colony-forming cells in vitro (Peters et al.). In addition, in combination with IL-3, IL-11 significantly enhances the growth of megakaryocytic colonies in vitro, suggesting its role in augmenting mouse megakaryopoiesis (Yonemura et al.). IL-11 is expressed in a wide range of normal adult mouse tissues, including the central nervous system, thymus, lung, and bone. The mouse IL-11 cDNA was cloned using an expression library generated from the lipopolysaccharide-induced mouse fetal thymic cell line, T2 (Morris et al.). The binding of IL-11 to its receptor induces heterodimerization with the gp130 subunit and activation of JAK tyrosine kinases. IL-11 also plays a role in cancer progression by inducing the proliferation of epithelial cancer cells and the survival of metastatic cells at distant organs. Recently, IL-11 has gained interest for its role in the pathogenesis of diseases in dysregulated mucosal homeostasis associated with STAT3 upregulation, including gastrointestinal cancers (Putoczki et al.).

Product Information

Alternative Names:	Adipogenic inhibitory factor, AGIF, Interleukin-11, Oprelvekin
Accession Number:	P47873
Amino Acid Sequence:	MPGPPAGSPR VSSDPRADLD SAVLLTRSLL ADTRQLAAQM RDKFPADGDH SLDSLPTLAM SAGTLGSLQL PGVLTRLRVD LMSYLRHVQW LRRAGGPSLK TLEPELGALQ ARLERLLRRL QLLMSRLALP QAAPDQPVIP LGPPASAWGS IRAAHAILGG LHLTLDWAVR GLLLLKTRL
Predicted Molecular Mass:	19.3 kDa
Species:	Mouse
Cross Reactivity:	Not active on human cells
Formulation:	Lyophilized from a sterile-filtered solution containing 0.1% trifluoroacetic acid.
Source:	E. coli

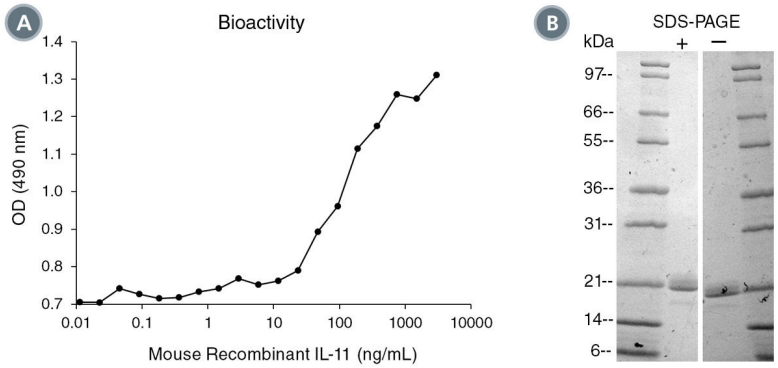
Specifications

Activity:	The specific activity is ≥ 4 x 10^3 units/mg (EC50 ≤ 250 ng/mL) as determined by a cell proliferation assay using B9 cells.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

Preparation and Storage

Storage:	Store at -20°C to -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Mouse Recombinant IL-11 was tested by its ability to promote the proliferation of B9 cells. Cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 107 ng/mL.
(B) 1 µg of Mouse Recombinant IL-11 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant IL-11 has a predicted molecular mass of 19.3 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Du X & Williams DA. (1997) Interleukin-11: review of molecular, cell biology, and clinical use. Blood 89(11): 3897–908.
Morris JC et al. (1996) Molecular cloning and characterization of murine interleukin-11. Exp Hematol 24(12): 1369–76.
Peters SO et al. (1996) Ex vivo expansion of murine marrow cells with interleukin-3 (IL-3), IL-6, IL-11, and stem cell factor leads to impaired engraftment in irradiated hosts. Blood 87(1): 30–7.
Putoczki TL et al. (2013) Interleukin-11 is the dominant IL-6 family cytokine during gastrointestinal tumorigenesis and can be targeted therapeutically. Cancer Cell 24(2): 257–71.
Yonemura Y et al. (1992) Synergistic effects of interleukin 3 and interleukin 11 on murine megakaryopoiesis in serum-free culture. Exp Hematol 20(8): 1011–6.