

Cytokines

Mouse Recombinant IL-11



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Catalog # 78026.1
78026

10 µg
100 µg

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 Y 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 SAVLLTRSL 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

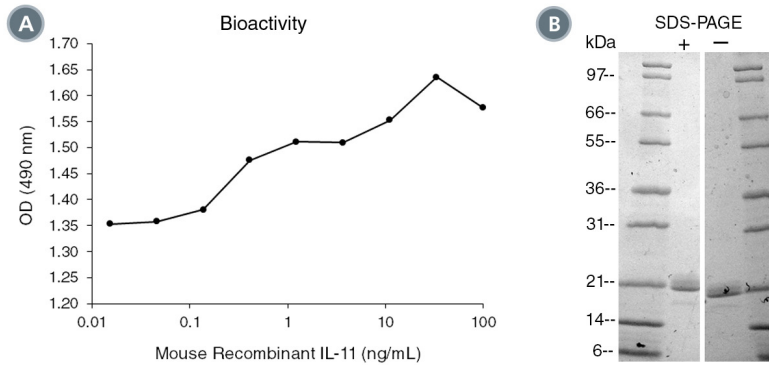
Specifications

Activity: The specific activity is $\geq 4 \times 10^5$ units/mg ($EC_{50} \leq 2.5$ ng/mL) as determined by ta cell proliferation assay using T11 cells.
Purity: $\geq 95\%$
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.
Reconstitution: Centrifuge vial before opening. Resuspend the product in sterile water containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles.
NOTE: If reconstituted product will be used immediately BSA is not required.

Data



(A) The biological activity of Mouse Recombinant IL-11 was tested by its ability to promote the proliferation of T11 cells growing in the presence of IL-6. Cell proliferation was measured after 91 hours of culture 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 0.8 - 1.2 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, please visit our website at 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.
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- 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.

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