

# Cytokines

## Human Recombinant IL-11



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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

[INFO@STEMCELL.COM](mailto:INFO@STEMCELL.COM) • [TECHSUPPORT@STEMCELL.COM](mailto:TECHSUPPORT@STEMCELL.COM)

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### Interleukin 11

Catalog #	78025.1	10 µg
	78025	100 µg
	78025.2	1000 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. IL-11 induces the proliferation of hematopoietic stem cells (Lemoli et al.) and megakaryocytic progenitor cells (Bruno et al.), the maturation of megakaryocytes (Burstein et al.), and the production of platelets (Neben et al.). IL-11 is produced by a variety of cell types including hematopoietic cells, mesenchymal cells, epithelial cells, and neuronal cells. It was first cloned from a cDNA library of the human bone marrow-derived stromal cell line KM-102 (Kawashima et al.). The binding of IL-11 to its receptor induces heterodimerization with the gp130 subunit and activation of JAK tyrosine kinases. IL-11 was the first pharmacologic agent approved for the treatment of chemotherapy-induced thrombocytopenia. 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:	P20809
Amino Acid Sequence:	MPGPPPGPPR VSPDPRAELD STVLLTRSL ADTRQLAAQL RDKFPADGDH NLDSLPTLAM SAGALGALQL PGVLTRLRAD LLSYLRHVQW LRRAGGSSLK TLEPELGTQL ARLDRLRLRL QLLMSRLALP QPPDPAPP LAPPSSAWGG IRAAHAILGG LHLLDWAVR GLLLKTRL
Predicted Molecular Mass:	19.3 kDa
Species:	Human
Cross Reactivity:	Mouse, Monkey
Formulation:	Lyophilized from a sterile filtered solution containing 0.1% trifluoroacetic acid.
Source:	E. coli

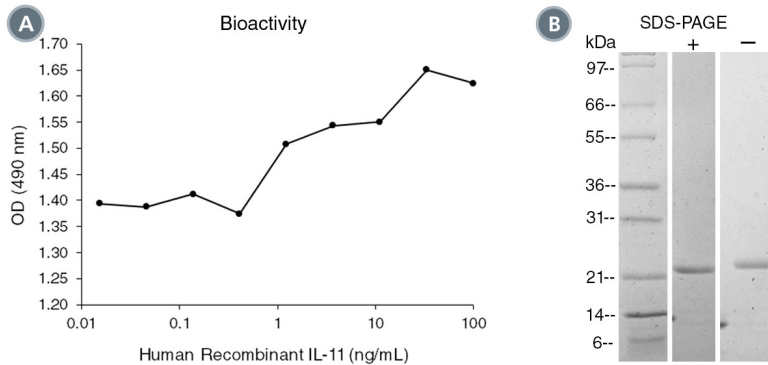
## Specifications

Activity:	The specific activity is $\geq 4 \times 10^5$ units/mg ( $EC_{50} \leq 2.5$ ng/mL) as determined by a cell proliferation assay using T11 cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is $\leq 1$ 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. 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 Human 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 Human Recombinant IL-11 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-11 has a predicted molecular mass of 19.3 kDa but migrates to an apparent molecular mass of 23 kDa.

## Related Products

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## References

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