

Cytokines

Human Recombinant IL-31



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Interleukin 31

Catalog #	78216	25 µg
	78216.1	100 µg
	78216.2	500 µg
	78216.3	1000 µg

Product Description

Interleukin 31 (IL-31), a four-helix bundle inflammatory cytokine, belongs to the IL-6 cytokine family which includes IL-6 (Catalog #78050), oncostatin M (Catalog #78094), leukemia inhibitory factor (LIF; Catalog #78055), and cardiotrophin-1 (Catalog #78160; Dillon et al.). IL-31 signals through a heterodimer composed of IL-31RA (also known as gp130-like receptor or GPL) and the oncostatin-M receptor (OSMR), both of which are expressed on monocytes (Diveu et al.; Ghilardi et al.), epithelial cells (Ip et al.), and keratinocytes (Kato et al.). Signaling through the GPL/OSMR complex activates the JAK/STAT, RAS/ERK, and PI3K/AKT signaling pathways, resulting in the downstream activation of STAT1, STAT3, and STAT5 transcription factors (Cornelissen et al.; Dambacher et al.; Dillon et al.; Ip et al.). IL-31 responses have been associated with allergic responses and inflammatory skin diseases including atopic dermatitis (Cornelissen et al.; Gangemi et al.).

Product Information

Alternative Names:	Interleukin-31
Accession Number:	Q6EBC2
Amino Acid Sequence:	SHTLTPVRLLR PSDDVQKIVE ELQSLSKMLL KDVEEEKGVL VSQNYTLPLCL SPDAQPPNNI HSPAIRAYLK TIRQLDNKSV IDEIIEHLDK LIFQDAPETN ISVPTDTHCE KRFILTISQQ FSECMDLALK SLTSGAQQAT T
Predicted Molecular Mass:	15.8 kDa
Species:	Human
Cross Reactivity:	Not determined
Formulation:	Lyophilized from a sterile-filtered solution containing sodium phosphate and sodium chloride, pH 7.5.
Source:	E. coli

Specifications

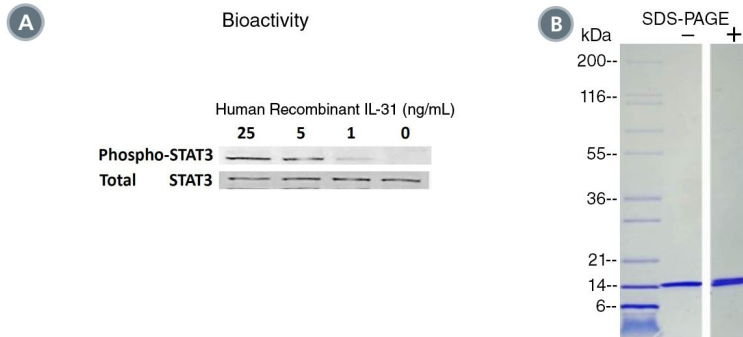
Activity:	Biological activity was detectable at ≤ 25 ng/mL as determined by a STAT3 activation assay using U-87 MG cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/ μ g protein.

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 $2 - 8^{\circ}\text{C}$ for more than 1 month or at -20°C to -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant IL-31 was tested by STAT3 activation in U-87 MG cells. The detection limit was ≤ 25 ng/mL.

(B) Human Recombinant IL-31 was resolved with SDS-PAGE under reducing (+) conditions and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-31 has a predicted molecular mass of 15.8 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

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- Ip WK et al. (2007) Interleukin-31 induces cytokine and chemokine production from human bronchial epithelial cells through activation of mitogen-activated protein kinase signalling pathways: implications for the allergic response. *Immunology* 122(4): 532-41.
- Kato A et al. (2014) Distribution of IL-31 and its receptor expressing cells in skin of atopic dermatitis. *J Dermatol Sci* 74(3): 229-35.

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