Human IL-31 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2824

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-31 in ELISAs and Western blots. In sandwich immunoassays, less than 1% cross-reactivity with recombinant mouse IL-31 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human IL-31 Ser24-Thr164 Accession # Q6EBC2
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

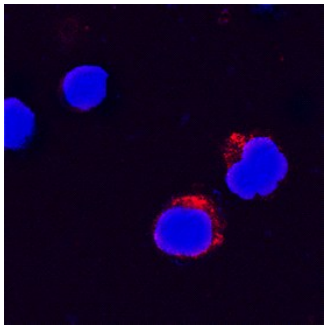
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human IL-31 (Catalog # 2824-IL)
Immunocytochemistry	5-15 µg/mL	See Below
Human IL-31 Sandwich Immunoassay		**Reagent**
ELISA Capture	0.2-0.8 µg/mL	Human IL-31 Antibody (Catalog # AF2824)
ELISA Detection	0.1-0.4 µg/mL	Human IL-31 Biotinylated Antibody (Catalog # BAF2824)
Standard		Recombinant Human IL-31 (Catalog # 2824-IL)
Neutralization	Measured by its ability to neutralize IL-31-induced STAT3 activation in the U-87 MG human glioblastoma/astrocytoma cell line. 1 µg/mL of this antibody can completely neutralize rhIL-31 (5 ng/mL) induced STAT3 activation in U-87 MG cells	

DATA

Immunocytochemistry



IL-31 in Human PBMCs. IL-31 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) treated with calcium ionomycin and PMA using Goat Anti-Human IL-31 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2824) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to cell surfaces and cytoplasm. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Human Interleukin-31 (IL-31) is a 24 kDa, short-chain member of the α-helical family of cytokines. The human IL-31 cDNA encodes a 164 amino acid (aa) precursor that contains a 23 aa signal peptide and a 141 aa mature protein (1, 2). The mature region shows four α-helices which would be expected to show a typical up-up-down-down topology. Human and mouse IL-31 share 24% aa sequence identity in the mature region (1). IL-31 is mainly associated with activated T cells and preferentially expressed by Th2 rather than Th1 cells. IL-31 signals via a heterodimeric receptor complex composed of a 120 kDa, gp130-related molecule termed IL-31 RA (also GPL and GLM-R) and the 180 kDa oncostatin M receptor (OSM Rβ) (2-6). In the complex, IL-31 directly binds to GPL, not OSM R (2, 3). IL-31 signaling has been shown to involve the Jak/STAT pathway, the PI3 kinase/AKT cascade, and the MAP kinase pathway (2-5). Although multiple isoforms of IL-31 RA are known, only a form that contains the entire length of the cytoplasmic domain is signaling-capable (2, 3). The IL-31 receptor is constitutively expressed by keratinocytes and upregulated by IFN-γ on monocytes (1). Studies using transgenic mice indicate that IL-31 may contribute to the pruritis (itching) associated with nonatopic dermatitis (1, 7).

References:

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