Human IL-31 RA Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2769

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-31 RA in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant mouse IL-31 RA is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IL-31 RA Ala20-Ser516 Accession # Q8NI17
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.

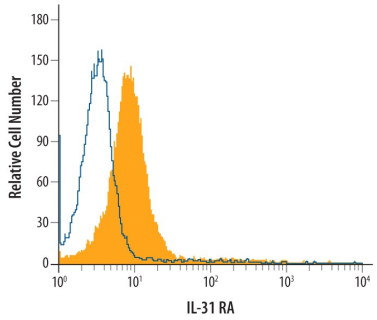
APPLICATIONS

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 RA (Catalog # 2769-IL)
Flow Cytometry	2.5 µg/10^6 cells	See Below
Immunocytochemistry	5-15 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

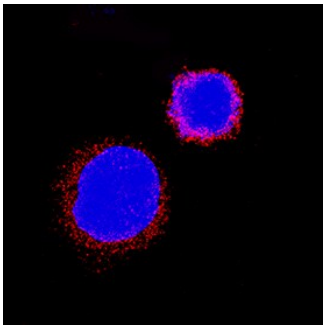
DATA

Flow Cytometry



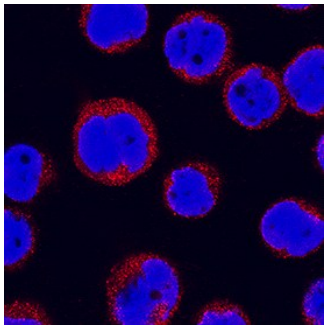
Detection of IL-31RA in U937 Human Cell Line by Flow Cytometry. U937 human histiocytic lymphoma cell line was stained with Goat Anti-Human IL-31 RA Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2769, filled histogram) or isotype control antibody (Catalog # AB-108-C, open histogram), followed by Phycoerythrin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # F0107).

Immunocytochemistry



IL-31 RA in K562 Human Cell Line. IL-31 RA was detected in immersion fixed K562 human chronic myelogenous leukemia cell line using Goat Anti-Human IL-31 RA Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2769) at 5 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.

Immunocytochemistry



IL-31 RA in THP-1 Human Cell Line. IL-31 RA was detected in immersion fixed THP-1 human acute monocytic leukemia cell line using Goat Anti-Human IL-31 RA Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2769) 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 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

The interleukin-31 receptor A subunit (IL-31 RA), also known as gp130-Like Monocyte Receptor (GLM-R or GPL), is a ~100 kDa type I transmembrane glycoprotein that is classified as being a type I cytokine receptor (1, 2). A heterodimeric complex of IL-31 RA and the oncostatin M receptor (OSM-R) functions as the signaling receptor for IL-31 (3). Both subunits are inducibly expressed throughout the myelomonocytic lineage and are upregulated by interferon-γ and bacterial lipopolysaccharides (1-3). IL-31 RA is also expressed on keratinocytes, dorsal root ganglia neurons, and variably on lung epithelial cells (3-6). The 732 amino acid (aa) IL-31 RA contains a 19 aa signal sequence, a 500 aa extracellular domain (ECD), a 21 aa transmembrane domain and a 192 aa cytoplasmic domain. The ECD shares 60%, 58%, 73% and 70% aa identity with mouse, rat, canine and bovine IL-31 RA ECD, respectively. Human IL-31 receptors do not respond to mouse IL-31 (7). The ECD contains five fibronectin type III domains; the first two contain four conserved cysteine residues and a WSXWS motif common to type I cytokine receptors (2). Twelve alternately spliced human IL-31 RA isoforms are known and range in size from 356-745 amino acids. A long (745 aa) and a short (560 aa) transmembrane form are the predominant forms, and many cell lines express both forms (8). The long form, like the 732 aa form, signals by recruiting STAT3, 5 or 1, while the short form does not recruit STATs and inhibits IL-31 signaling. The ratio of these forms and their co-expression with OSM-R determines a cell's response to IL-31 (8). In both humans and transgenic mice, IL-31 from skin-homing Th2 cells may contribute to the pruritis (itching) associated with nonatopic dermatitis, especially in infected skin (3, 9, 10).

References:

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