

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	<i>E. coli</i> -derived recombinant human IL-31 (R&D Systems, Catalog # 2824-IL) Ser24-Thr164 Accession # NP_001014358
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

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)
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)

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.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> 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.

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 R β) (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:

1. Dillon, S.R. *et al.* (2004) *Nat. Immunol.* **5**:752.
2. Diveu, C. *et al.* (2004) *Eur. Cytokine Netw.* **15**:291.
3. Dreuw, A. *et al.* (2004) *J. Biol. Chem.* **279**:36112.
4. Diveu, C. *et al.* (2003) *J. Biol. Chem.* **278**:49850.
5. Ghilardi, N. *et al.* (2002) *J. Biol. Chem.* **277**:16831.
6. Mosley, B. *et al.* (1996) *J. Biol. Chem.* **271**:32635.
7. Takaoka, A. *et al.* (2005) *Eur. J. Pharmacol.* **516**:180.