SANTA CRUZ BIOTECHNOLOGY, INC.

IL-31R (N-14): sc-47076

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IL-31 is a T cell cytokine that is preferentially produced by T helper type 2 cells. IL-31 signals through a heterodimeric receptor composed of the IL-31 receptor (IL-31R) and the oncostatin M receptor (OSM). This receptor complex recruits JAK1, JAK2, Stat1, Stat3 and Stat5 signaling pathways, as well as the PI 3-kinase/AKT cascade. SHP-2 and Shc adapter molecules are also recruited and contribute to an increased activation of the MAP kinase pathway in response to IL-31. Overexpression of IL-31 in mice results in pruritus and skin dermatitis resembling human atopic dermatitis (AD). Comparisons between skin from patients with AD and healthy skin showed IL-31R expression at higher levels on epidermal keratinocytes in AD samples. Infiltrating cells, more numerous in skin from patients with AD compared with that of healthy individuals, expressed IL-31 mRNA. IL-31 may participate in the cause of itch sensation and promote scratching behavior in NC/Nga mice with atopic dermatitis, and may represent a novel target for antipruritic drug development.

REFERENCES

1. Diveu, C., et al. 2004. Predominant expression of the long isoform of gp130-like (GPL) receptor is required for interleukin-31 signaling. Eur. Cytokine Netw. 15: 291-302.
2. Dreuw, A., et al. 2004. Characterization of the signaling capacities of the novel gp130-like cytokine receptor. J. Biol. Chem. 279: 36112-36120.
3. Dillon, S.R., et al. 2004. Interleukin-31, a cytokine produced by activated T cells, induces dermatitis in mice. Nat. Immunol. 5: 752-760.
4. Takaoka, A., et al. 2005. Expression of IL-31 gene transcripts in NC/Nga mice with atopic dermatitis. Eur. J. Pharmacol. 516: 180-181.
5. Takaoka, A., et al. 2006. Involvement of IL-31 on scratching behavior in NC/Nga mice with atopic-like dermatitis. Exp. Dermatol. 15: 161-167.
6. Sonkoly, E., et al. 2006. IL-31: a new link between T cells and pruritus in atopic skin inflammation. J. Allergy Clin. Immunol. 117: 411-417.

CHROMOSOMAL LOCATION

Genetic locus: IL31RA (human) mapping to 5q11.2; Il31ra (mouse) mapping to 13 D2.2.

SOURCE

IL-31R (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of IL-31R of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-47076 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

IL-31R (N-14) is recommended for detection of IL-31R of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IL-31R (N-14) is also recommended for detection of IL-31R in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for IL-31R siRNA (h): sc-60839, IL-31R siRNA (m): sc-60840, IL-31R shRNA Plasmid (h): sc-60839-SH, IL-31R shRNA Plasmid (m): sc-60840-SH, IL-31R shRNA (h) Lentiviral Particles: sc-60839-V and IL-31R shRNA (m) Lentiviral Particles: sc-60840-V.

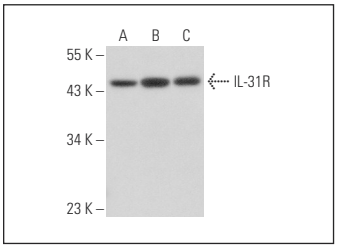
Molecular Weight of IL-31R isoforms 1/2/3/4: 82/86/75/41 kDa.

Molecular Weight of IL-31R isoforms 5/6/7/8: 77/70/58/67 kDa.

Molecular Weight of IL-31R isoforms 9/10/11/12: 64/69/71/84 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, HeLa whole cell lysate: sc-2200 or COLO 205 whole cell lysate: sc-364177.

DATA



IL-31R (N-14): sc-47076. Western blot analysis of IL-31R expression in COLO 205 (**A**), HEK293 (**B**) and HeLa (**C**) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS Satisfaction Guaranteed

Try **IL-31R (A-12): sc-515465** or **IL-31R (N5D): sc-130484**, our highly recommended monoclonal alternatives to IL-31R (N-14).