SANTA CRUZ BIOTECHNOLOGY, INC.

IL-10Rβ (B-4): sc-514822

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The IL-10 receptor, IL-10R, is a member of the class II subgroup of the cytokine receptor family and exhibits structural similarity to the interferon receptor. IL-10R is expressed in B cells and T helper cells, as well as in LPS-induced mouse fibroblasts. Overall, mouse IL-10R and human IL-10R share 60% sequence identity at the protein level. Stimulation with IL-10 leads to phosphorylation of JAK1 and Tyk 2 tyrosine kinases. The activated kinases phosphorylate the two tyrosine residues (Tyr 446 and Tyr 496) in the cytoplasmic domain of IL-10Rα. The phosphorylation of these two residues are required for proper function of IL-10R and activation of IL-10E1 signaling. IL-10Rβ is ubiquitously expressed and, in addition to forming the IL-10 heterodimeric receptor, it forms a heterodimeric receptor with an IL-22R subunit and an IL-28R subunit. IL-10R is constitutively expressed on human natural killer (NK) cells and the direct binding of IL-10 potentiates cytokine production by human NK cells.

REFERENCES

1. Ho, A.S.Y., et al. 1993. A receptor for interleukin-10 is related to interferon receptors. Proc. Natl. Acad. Sci. USA 90: 11267-11271.
2. Weber-Nordt, R.M., et al. 1994. Lipopoly-saccharide-dependent induction of IL-10 receptor expression on murine fibroblasts. J. Immunol. 153: 3734-3744.
3. Ho, A.S., et al. 1995. Functional regions of the mouse interleukin-10 receptor cytoplasmic domain. Mol. Cell. Biol. 15: 5043-5053.
4. Tan, J.C., et al. 1995. Characterization of recombinant extracellular domain of human interleukin-10 receptor. J. Biol. Chem. 270: 12906-12911.
5. Carson, W.E., et al. 1995. The functional characterization of interleukin-10 receptor expression on human natural killer cells. Blood 85: 3577-3585.
6. Corinti, S., et al. 2001. Regulatory activity of autocrine IL-10 on dendritic cell functions. J. Immunol. 166: 4312-4318.

CHROMOSOMAL LOCATION

Genetic locus: IL10RB (human) mapping to 21q22.11; Il10rb (mouse) mapping to 16 C3.3.

SOURCE

IL-10Rβ (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 81-102 within an extracellular domain of IL-10Rβ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514822 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

IL-10Rβ (B-4) is recommended for detection of IL-10Rβ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for IL-10Rβ siRNA (h): sc-75331, IL-10Rβ siRNA (m): sc-75332, IL-10Rβ shRNA Plasmid (h): sc-75331-SH, IL-10Rβ shRNA Plasmid (m): sc-75332-SH, IL-10Rβ shRNA (h) Lentiviral Particles: sc-75331-V and IL-10Rβ shRNA (m) Lentiviral Particles: sc-75332-V.

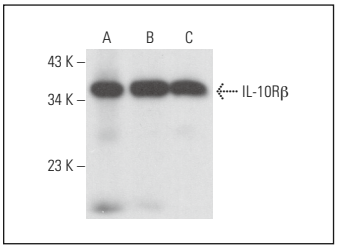
Molecular Weight of IL-10Rβ: 37 kDa.

Positive Controls: IL-10Rβ (h2): 293T Lysate: sc-176033, human fetal muscle tissue extract or human fetal heart tissue extract.

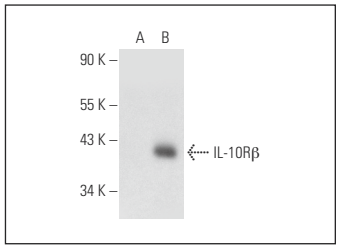
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



IL-10Rβ (B-4): sc-514822. Western blot analysis of IL-10Rβ expression in human fetal heart (**A**), human fetal liver (**B**) and human fetal muscle (**C**) tissue extracts.



IL-10Rβ (B-4): sc-514822. Western blot analysis of IL-10Rβ expression in non-transfected: sc-117752 (**A**) and human IL-10Rβ transfected: sc-176033 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Venza, I., et al. 2015. IL-10Rα expression is post-transcriptionally regulated by miR-15a, miR-185, and miR-211 in melanoma. BMC Med. Genomics 8: 81.

STORAGE

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