SANTA CRUZ BIOTECHNOLOGY, INC.

IL-10Rβ (F-6): sc-271969

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. Lipopolysaccharide-dependent induction of IL-10 receptor expression on murine fibroblasts. J. Immunol. 153: 3734-3744.

CHROMOSOMAL LOCATION

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

SOURCE

IL-10Rβ (F-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 251-281 within a cytoplasmic 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.

IL-10Rβ (F-6) is available conjugated to agarose (sc-271969 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271969 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271969 PE), fluorescein (sc-271969 FITC), Alexa Fluor® 488 (sc-271969 AF488), Alexa Fluor® 546 (sc-271969 AF546), Alexa Fluor® 594 (sc-271969 AF594) or Alexa Fluor® 647 (sc-271969 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271969 AF680) or Alexa Fluor® 790 (sc-271969 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271969 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

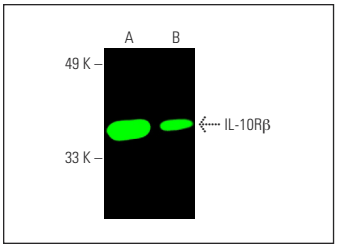
IL-10Rβ (F-6) is recommended for detection of IL-10Rβ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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.

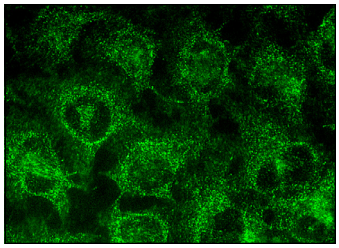
Molecular Weight of IL-10Rβ: 37 kDa.

Positive Controls: rat liver extract: sc-2395, rat lung extract: sc-2396 or U-937 cell lysate: sc-2239.

DATA



IL-10Rβ (F-6): sc-271969. Near-infrared western blot analysis of IL-10Rβ expression in rat liver (**A**) and rat lung (**B**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



IL-10Rβ (F-6): sc-271969. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Ji, Y.W., et al. 2017. Lacrimal gland-derived IL-22 regulates IL-17-mediated ocular mucosal inflammation. Mucosal Immunol. 10: 1202-1210.
2. Wilbers, R.H.P., et al. 2017. Re-evaluation of IL-10 signaling reveals novel insights on the contribution of the intracellular domain of the IL-10R2 chain. PLoS ONE 12: e0186317.
3. Serramito-Gómez, I., et al. 2020. Regulation of cytokine signaling through direct interaction between cytokine receptors and the ATG16L1 WD40 domain. Nat. Commun. 11: 5919.
4. McGuire, J.J., et al. 2021. Mesenchymal stem cell-derived interleukin-28 drives the selection of apoptosis resistant bone metastatic prostate cancer. Nat. Commun. 12: 723.
5. Meyer-Arndt, L., et al. 2023. Inflammatory cytokines associated with multiple sclerosis directly Induce alterations of neuronal cytoarchitecture in human neurons. J. Neuroimmune Pharmacol. 18: 145-159.

STORAGE

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