SANTA CRUZ BIOTECHNOLOGY, INC.

IL-11Rα (4D12): sc-130920

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The pleiotropic cytokine, IL-11, has been shown to have proliferative and differentiation effects on lymphopoietic, myeloid and erythroid cells. IL-11 also has the inhibiting effect of repressing adipogenesis *in vitro*. The IL-11α receptor, IL-11Rα, is a member of the class I subgroup of the cytokine receptor family and exhibits structural similarity to the α subunits of the human ciliary neurotrophic factor (CNTF) and the mouse IL-6 receptor. It is speculated that the IL-11Rα regulates the proliferation and/or differentiation of skeletogenic progenitor and mesenchymal cells. Coexpression of gp130 and IL-11α is necessary for high-affinity binding of IL-11 to IL-11Rα. It has also been found that coexpression of IL-11Rα and gp130 is required for proper stimulation of Ba/F3 cells to differentiate into macrophage in response to IL-11.

CHROMOSOMAL LOCATION

Genetic locus: IL11RA (human) mapping to 9p13.3; Il11ra1 (mouse) mapping to 4 A5.

SOURCE

IL-11Rα (4D12) is a mouse monoclonal antibody raised against recombinant soluble IL-11Rα 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-11Rα (4D12) is available conjugated to agarose (sc-130920 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-130920 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130920 PE), fluorescein (sc-130920 FITC), Alexa Fluor® 488 (sc-130920 AF488), Alexa Fluor® 546 (sc-130920 AF546), Alexa Fluor® 594 (sc-130920 AF594) or Alexa Fluor® 647 (sc-130920 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-130920 AF680) or Alexa Fluor® 790 (sc-130920 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

IL-11Rα (4D12) is recommended for detection of IL-11Rα of mouse, rat 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for IL-11Rα siRNA (h): sc-35647, IL-11Rα siRNA (m): sc-35648, IL-11Rα shRNA Plasmid (h): sc-35647-SH, IL-11Rα shRNA Plasmid (m): sc-35648-SH, IL-11Rα shRNA (h) Lentiviral Particles: sc-35647-V and IL-11Rα shRNA (m) Lentiviral Particles: sc-35648-V.

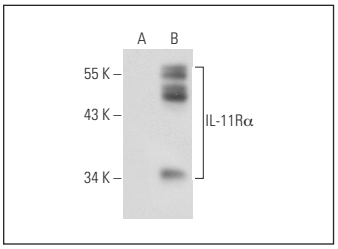
Molecular Weight of IL-11Rα: 51/151 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, IL-11Rα (h): 293 Lysate: sc-176002 or Jurkat whole cell lysate: sc-2204.

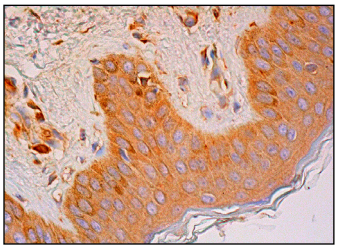
STORAGE

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

DATA



IL-11Rα (4D12): sc-130920. Western blot analysis of IL-11Rα expression in non-transfected: sc-110760 (**A**) and human IL-11Rα transfected: sc-176002 (**B**) 293 whole cell lysates.



IL-11Rα (4D12): sc-130920. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes.

SELECT PRODUCT CITATIONS

1. Karjalainen, K., et al. 2015. Targeting IL-11 receptor in leukemia and lymphoma: a functional ligand-directed study and hematopathology analysis of patient-derived specimens. Clin. Cancer Res. 21: 3041-3051.
2. Wang, D., et al. 2019. Hepatectomy promotes recurrence of liver cancer by enhancing IL-11-Stat3 signaling. EBioMedicine 46: 119-132.
3. Chen, H., et al. 2020. TGF-β1/IL-11/MEK/ERK signaling mediates senescence-associated pulmonary fibrosis in a stress-induced premature senescence model of Bmi-1 deficiency. Exp. Mol. Med. 52: 130-151.
4. Ng, B., et al. 2020. Fibroblast-specific IL-11 signaling drives chronic inflammation in murine fibrotic lung disease. FASEB J. 34: 11802-11815.
5. Dong, J., et al. 2021. Hepatocyte-specific IL-11 *cis*-signaling drives lipotoxicity and underlies the transition from NAFLD to NASH. Nat. Commun. 12: 66.
6. Guo, Y.T., et al. 2021. Krüppel-like factor 15/interleukin 11 axis-mediated adventitial remodeling depends on extracellular signal-regulated kinases 1 and 2 activation in Angiotensin II-induced hypertension. J. Am. Heart Assoc. 10: e020554.
7. Viswanathan, S., et al. 2021. Critical conditions for studying interleukin-11 signaling *in vitro* and avoiding experimental artefacts. Curr. Protoc. 1: e251.
8. Zhou, J., et al. 2022. Sirt1 overexpression improves senescence-associated pulmonary fibrosis induced by vitamin D deficiency through down-regulating IL-11 transcription. Aging Cell 21: e13680.
9. Zuo, D., et al. 2022. Anti-apoptosis effect of recombinant human interleukin-11 in neonatal hypoxic-ischemic rats through activating the IL-11Rα/Stat3 signaling pathway. J. Stroke Cerebrovasc. Dis. 32: 106923.

RESEARCH USE

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