SANTA CRUZ BIOTECHNOLOGY, INC.

IL-11 (A-9): sc-133063

BACKGROUND

Interleukin-11, or IL-11, is a pleiotropic cytokine that is biologically related to IL-6, leukemia inhibitory factor (LIF), oncostatin M (OSM) and ciliary neurotrophic factor (CNTF). IL-11 is a stromal cell-derived cytokine which stimulates the proliferation of primitive hematopoietic progenitor cells and, together with Flt 3-L, stimulates the expansion of $CD34^+$ cell populations. Human IL-11 cDNA encodes a 199 amino acid precursor with a 21 amino acid hydrophobic signal peptide which is cleaved to generate a glycosylated biologically active form. IL-11 exerts its biological effects through the interleukin-11 receptor, IL-11R, which is composed of an IL-11 receptor-specific chain designated IL-11Rα, and gp130, the signal transducing component common to the IL-6, LIF, OSM and CNTF receptors. Stimulation of the IL-11R results in the activation of the Janus tyrosine kinase family members JAK1 and JAK2 which, once activated, induce the nuclear translocation of the transcription factors Stat1 and Stat3.

CHROMOSOMAL LOCATION

Genetic locus: IL11 (human) mapping to 19q13.42; Il11 (mouse) mapping to 7 A1.

SOURCE

IL-11 (A-9) is a mouse monoclonal antibody raised against amino acids 31-199 of IL-11 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-11 (A-9) is available conjugated to agarose (sc-133063 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133063 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133063 PE), fluorescein (sc-133063 FITC), Alexa Fluor® 488 (sc-133063 AF488), Alexa Fluor® 546 (sc-133063 AF546), Alexa Fluor® 594 (sc-133063 AF594) or Alexa Fluor® 647 (sc-133063 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133063 AF680) or Alexa Fluor® 790 (sc-133063 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

IL-11 (A-9) is recommended for detection of IL-11 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-11 siRNA (h): sc-39636, IL-11 siRNA (m): sc-39637, IL-11 shRNA Plasmid (h): sc-39636-SH, IL-11 shRNA Plasmid (m): sc-39637-SH, IL-11 shRNA (h) Lentiviral Particles: sc-39636-V and IL-11 shRNA (m) Lentiviral Particles: sc-39637-V.

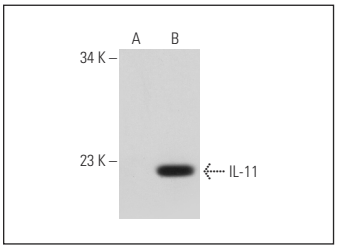
Molecular Weight of IL-11: 23 kDa.

Positive Controls: IL-11 (h): 293T Lysate: sc-113495, NIH/3T3 whole cell lysate sc-2210 or AN3 CA cell lysate: sc-24662.

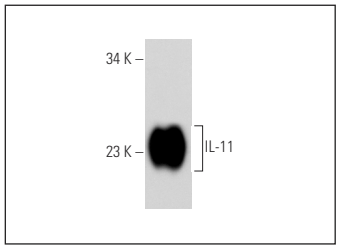
RECOMMENDED SUPPORT REAGENTS

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-11 (A-9): sc-133063. Western blot analysis of IL-11 expression in non-transfected: sc-117752 (**A**) and human IL-11 transfected: sc-113495 (**B**) 293T whole cell lysates.



IL-11 (A-9): sc-133063. Western blot analysis of human recombinant IL-11.

SELECT PRODUCT CITATIONS

1. Zhang, F., et al. 2010. IL-17A stimulates the expression of inflammatory cytokines via celecoxib-blocked prostaglandin in MC3T3-E1 cells. Arch. Oral Biol. 55: 679-688.
2. Zhang, B., et al. 2019. Interleukin-11 treatment protected against cerebral ischemia/reperfusion injury. Biomed. Pharmacother. 115: 108816.
3. Wang, D., et al. 2019. Hepatectomy promotes recurrence of liver cancer by enhancing IL-11-Stat3 signaling. EBioMedicine 46: 119-132.
4. 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.
5. 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.
6. Zuo, D., et al. 2023. 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.

STORAGE

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

RESEARCH USE

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