SANTA CRUZ BIOTECHNOLOGY, INC.

IL-1α (ALF-161): sc-12741

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Two forms of interleukin-1, designated IL-1α and IL-1β, have been described. Although encoded by distinct genes and exhibiting roughly only 25% sequence identity, IL-1α and IL-1β bind to the same receptor and seem to elicit similar biological responses. IL-1 production is generally thought to be associated with inflammation, but it has also been shown to be expressed during kidney development, thymocyte differentiation and cartilage degradation. IL-1 plays a critical role in the regulation of immune response and inflammation, acting as an activator of T and B lymphocytes and natural killer (NK) cells. In T cells, IL-1 stimulates the production of IL-2 and selectively inhibits IL-4 expression. IL-1 induces B cell proliferation and maturation, and immunoglobulin synthesis. NK cells require IL-1β for production of the anti- pathogen IFN-γ. IL-1 has also been implicated in several pathological conditions including rheumatoid arthritis, inflammatory bowel disease and atherosclerosis.

REFERENCES

1. Auron, P.E., et al. 1985. Nucleotide sequence of human monocyte interleukin 1 precursor cDNA. Proc. Natl. Acad. Sci. USA 81: 7907-7911.
2. March, C.J., et al. 1985. Cloning, sequence and expression of two distinct human interleukin-1 complementary DNAs. Nature 315: 641-647.
3. Dinarello, C.A. 1991. Interleukin-1 and interleukin-1 antagonism. Blood 77: 1627-1652.
4. Sadouk, M.B., et al. 1995. Human synovial fibroblasts coexpress IL-1 receptor type I and type II mRNA. The increased level of the IL-1 receptor in osteoarthritic cells is related to an increased level of the type I receptor. Lab. Invest. 73: 347-355.
5. Lonnemann, G., et al. 1995. Cytokines in human renal interstitial fibrosis. I. Interleukin-1 is a paracrine growth factor for cultured fibrosis-derived kidney fibroblasts. Kidney Int. 47: 837-844.

CHROMOSOMAL LOCATION

Genetic locus: IL1A (human) mapping to 2q13; Il1a (mouse) mapping to 2 F1.

SOURCE

IL-1α (ALF-161) is an Armenian hamster monoclonal antibody raised against full length purified recombinant IL-1α of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for neutralization, sc-12741 L, 200 µg/0.1 ml.

IL-1α (ALF-161) is available conjugated to agarose (sc-12741 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-12741 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12741 PE), fluorescein (sc-12741 FITC), Alexa Fluor® 488 (sc-12741 AF488), Alexa Fluor® 546 (sc-12741 AF546), Alexa Fluor® 594 (sc-12741 AF594) or Alexa Fluor® 647 (sc-12741 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-12741 AF680) or Alexa Fluor® 790 (sc-12741 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

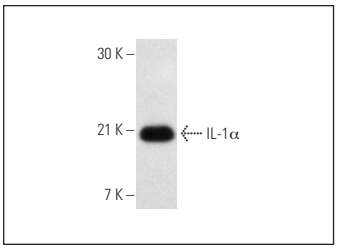
IL-1α (ALF-161) is recommended for detection of IL-1α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-1α siRNA (h): sc-39613, IL-1α siRNA (m): sc-39614, IL-1α shRNA Plasmid (h): sc-39613-SH, IL-1α shRNA Plasmid (m): sc-39614-SH, IL-1α shRNA (h) Lentiviral Particles: sc-39613-V and IL-1α shRNA (m) Lentiviral Particles: sc-39614-V.

Molecular Weight of IL-1α: 33/17 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

DATA



IL-1α (ALF-161): sc-12741. Western blot analysis of mouse recombinant IL-1α.

SELECT PRODUCT CITATIONS

1. Idan, C., et al. 2015. IL-1α is a DNA damage sensor linking genotoxic stress signaling to sterile inflammation and innate immunity. Sci. Rep. 5: 14756.
2. Kapoor, M., et al. 2018. Effect of the NADPH oxidase inhibitor apocynin on ischemia-reperfusion hippocampus injury in rat brain. Biomed. Pharmacother. 97: 458-472.
3. Chen, L., et al. 2021. Cholecystokinin octapeptide improves hippocampal glutamatergic synaptogenesis and postoperative cognition by inhibiting induction of A1 reactive astrocytes in aged mice. CNS Neurosci. Ther. E-published.

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.

PROTOCOLS

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