

IL-1 α (1F3B3): sc-32814

BACKGROUND

Two forms of interleukin 1, designated IL-1 α and IL-1 β , have been described. Although encoded by distinct genes and exhibiting roughly only 25% sequence identity, IL-1 α and IL-1 β 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-1 β 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. 1984. 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 Intl.* 47: 837-844.
6. Zuniga-Pflucker, J.C., et al. 1995. Requirement for TNF- α and IL-1 α in fetal thymocyte commitment and differentiation. *Science* 268: 1906-1909.
7. Sandborg, C.I., et al. 1995. IL-4 expression in human T cells is selectively inhibited by IL-1 α and IL-1 β . *J. Immunol.* 155: 5206-5212.

CHROMOSOMAL LOCATION

Genetic locus: IL1A (human) mapping to 2q13.

SOURCE

IL-1 α (1F3B3) is a mouse monoclonal antibody raised against recombinant IL-1 α of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

IL-1 α (1F3B3) is recommended for detection of IL-1 α of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

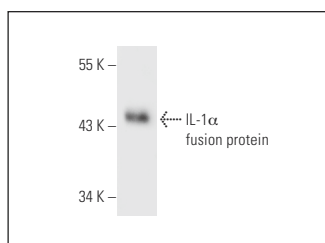
Suitable for use as control antibody for IL-1 α siRNA (h): sc-39613, IL-1 α shRNA Plasmid (h): sc-39613-SH and IL-1 α shRNA (h) Lentiviral Particles: sc-39613-V.

Molecular Weight of IL-1 α : 33/17 kDa.

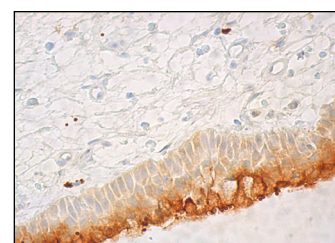
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



IL-1 α (1F3B3): sc-32814. Western blot analysis of human recombinant IL-1 α fusion protein.



IL-1 α (1F3B3): sc-32814. Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing cytoplasmic staining of respiratory epithelial cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgG κ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

RESEARCH USE

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



See **IL-1 α (ALF-161): sc-12741** for IL-1 α antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.