

IL-1 β (5C10): sc-52013

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. 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.
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: IL1B (human) mapping to 2q14.1.

SOURCE

IL-1 β (5C10) is a mouse monoclonal antibody raised against recombinant IL-1 β of human origin.

PRODUCT

Each vial contains 100 μ g IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

IL-1 β (5C10) is recommended for detection of IL-1 β of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

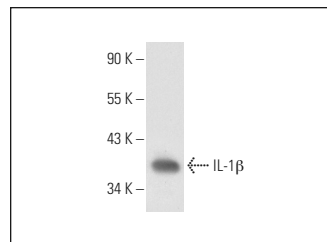
Suitable for use as control antibody for IL-1 β siRNA (h): sc-39615, IL-1 β shRNA Plasmid (h): sc-39615-SH and IL-1 β shRNA (h) Lentiviral Particles: sc-39615-V.

Molecular Weight of IL-1 β precursor: 31 kDa.

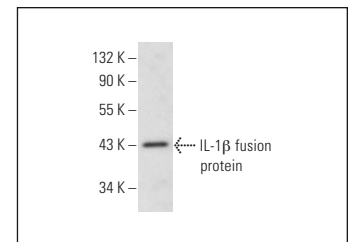
Molecular Weight of mature IL-1 β : 17 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410 or BJAB whole cell lysate: sc-2207.

DATA



IL-1 β (5C10): sc-52013. Western blot analysis of IL-1 β expression in SK-N-SH whole cell lysate.



IL-1 β (5C10): sc-52013. Western blot analysis of human recombinant IL-1 β fusion protein.

SELECT PRODUCT CITATIONS

1. Andrade, P., et al. 2013. Elevated IL-1 β and IL-6 levels in lumbar herniated discs in patients with sciatic pain. Eur. Spine J. 22: 714-720.
2. Rui, W., et al. 2016. Preventive activity of banana peel polyphenols on CCl₄-induced experimental hepatic injury in Kunming mice. Exp. Ther. Med. 11: 1947-1954.
3. Na, K.S., et al. 2016. The influence of overnight orthokeratology on ocular surface and meibomian glands in children and adolescents. Eye Contact Lens 42: 68-73.
4. Campolo, M., et al. 2021. PEA-OXA mitigates oxaliplatin-induced painful neuropathy through NF κ B/Nrf-2 axis. Int. J. Mol. Sci. 22: 3927.

RESEARCH USE

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



See **IL-1 β (E7-2-hIL β): sc-32294** for IL-1 β antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.