

IL-1 β (AS57): sc-52771

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 osteo-arthritic 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. Zúñiga-Pflücker, 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.
8. Leung, L.Y., et al. 2007. A new microrheometric approach reveals individual and cooperative roles for TGF β 1 and IL-1 β in fibroblast-mediated stiffening of collagen gels. FASEB J. 21: 2064-2073.

CHROMOSOMAL LOCATION

Genetic locus: IL1B (human) mapping to 2q13.

SOURCE

IL-1 β (AS57) is a mouse monoclonal antibody raised against recombinant IL-1 β of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2b} in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IL-1 β (AS57) is recommended for detection of IL-1 β of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

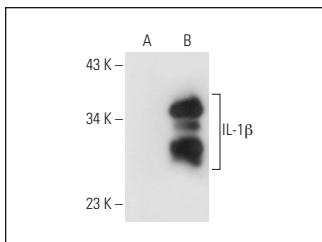
Suitable for use as control antibody for IL-1 β siRNA (h): sc-39615, IL-1 β shRNA Plasmid (h): sc-39615-SH and IL-1 β shRNA (h) Lentiviral Particles: sc-39615-V.

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

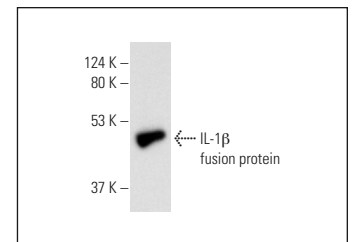
Molecular Weight of mature IL-1 β : 17 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, SK-N-SH cell lysate: sc-2410 or IL-1 β (h): 293 Lysate: sc-111184.

DATA



IL-1 β (AS57): sc-52771. Western blot analysis of IL-1 β expression in non-transfected: sc-110760 (A) and human IL-1 β transfected: sc-111184 (B) 293 whole cell lysates.



IL-1 β (AS57): sc-52771. Western blot analysis of human recombinant IL-1 β fusion protein.

SELECT PRODUCT CITATIONS

1. Relja, B., et al. 2015. Nlrp1 inflammasome is downregulated in trauma patients. J. Mol. Med. 93: 1391-400.
2. Liu, C.H., et al. 2020. Zileuton ameliorates depressive-like behaviors, hippocampal neuroinflammation, apoptosis and synapse dysfunction in mice exposed to chronic mild stress. Int. Immunopharmacol. 78: 105947.
3. Liu, C., et al. 2020. LncRNA MALAT1 promoted high glucose-induced pyroptosis of renal tubular epithelial cell by sponging miR-30c targeting for NLRP3. Kaohsiung J. Med. Sci. 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.



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.