SANTA CRUZ BIOTECHNOLOGY, INC.

IL-1β (B122): sc-12742

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.

CHROMOSOMAL LOCATION

Genetic locus: IL1B (human) mapping to 2q13; Il1b (mouse) mapping to 2 F1.

SOURCE

IL-1β (B122) is an Armenian hamster monoclonal antibody raised against the mature form IL-1β 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-12742 L, 200 µg/0.1 ml.

IL-1β (B122) is available conjugated to agarose (sc-12742 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-12742 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12742 PE), fluorescein (sc-12742 FITC), Alexa Fluor® 488 (sc-12742 AF488), Alexa Fluor® 546 (sc-12742 AF546), Alexa Fluor® 594 (sc-12742 AF594) or Alexa Fluor® 647 (sc-12742 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-12742 AF680) or Alexa Fluor® 790 (sc-12742 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

IL-1β (B122) is recommended for detection of IL-1β precursor and mature forms of mouse, rat, human and hamster 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-1β siRNA (h): sc-39615, IL-1β siRNA (m): sc-39616, IL-1β siRNA (r): sc-45995, IL-1β shRNA Plasmid (h): sc-39615-SH, IL-1β shRNA Plasmid (m): sc-39616-SH, IL-1β shRNA Plasmid (r): sc-45995-SH, IL-1β shRNA (h) Lentiviral Particles: sc-39615-V, IL-1β shRNA (m) Lentiviral Particles: sc-39616-V and IL-1β shRNA (r) Lentiviral Particles: sc-45995-V.

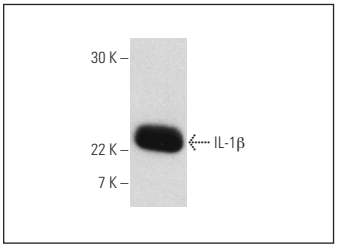
Molecular Weight of IL-1β precursor: 31 kDa.

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

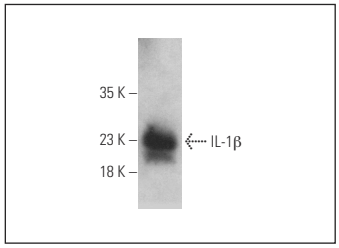
STORAGE

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

DATA



IL-1β (B122): sc-12742. Western blot analysis of mouse recombinant IL-1β.



IL-1β (B122) HRP: sc-12742 HRP. Direct western blot analysis of mouse recombinant IL-1β.

SELECT PRODUCT CITATIONS

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2. Di Paola, R., et al. 2016. Ultramicronized palmitoylethanolamide (PEA-um®) in the treatment of idiopathic pulmonary fibrosis. Pharmacol. Res. 111: 405-412.
3. Prema, A., et al. 2017. Fenugreek seed powder attenuated aluminum chloride-induced Tau pathology, oxidative stress, and inflammation in a rat model of Alzheimer's disease. J. Alzheimers Dis. 60: S209-S220.
4. Xie, Y., et al. 2018. Electro-acupuncture stimulation prevents remifentanil-induced postoperative hyperalgesia by suppressing spinal microglia in rats. Exp. Ther. Med. 16: 353-359.
5. Zhang, M., et al. 2019. AIM2 promotes non-small-cell lung cancer cell growth through inflammasome-dependent pathway. J. Cell. Physiol. 234: 20161-20173.
6. Guo, Q., et al. 2020. Decreased Jagged1 expression in vascular smooth muscle cells delays endothelial regeneration in arteriovenous graft. Cardiovasc. Res. 116: 2142-2155.
7. Zhou, X., et al. 2021. Astaxanthin inhibits microglia M1 activation against inflammatory injury triggered by lipopolysaccharide through down-regulating miR-31-5p. Life Sci. 267: 118943.
8. Xue, Y., et al. 2022. Macrophages regulate vascular smooth muscle cell function during atherosclerosis progression through IL-1β/STAT3 signaling. Commun. Biol. 5: 1316.
9. Wang, D., et al. 2023. Long-term exposure to house dust mites accelerates lung cancer development in mice. J. Exp. Clin. Cancer Res. 42: 26.

RESEARCH USE

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