

# IL-1 $\beta$ (E7-2-hIL1 $\beta$ ): sc-32294

## BACKGROUND

Two forms of interleukin-1, designated IL-1 $\alpha$  and IL-1 $\beta$ , have been described. Although encoded by distinct genes and exhibiting roughly only 25% sequence identity, IL-1 $\alpha$  and IL-1 $\beta$  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 $\beta$  for production of the anti-pathogen IFN- $\gamma$ . 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 2q14.1.

## SOURCE

IL-1 $\beta$  (E7-2-hIL1 $\beta$ ) is a mouse monoclonal antibody raised against recombinant IL-1 $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-1 $\beta$  (E7-2-hIL1 $\beta$ ) is available conjugated to agarose (sc-32294 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32294 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32294 PE), fluorescein (sc-32294 FITC), Alexa Fluor® 488 (sc-32294 AF488), Alexa Fluor® 546 (sc-32294 AF546), Alexa Fluor® 594 (sc-32294 AF594) or Alexa Fluor® 647 (sc-32294 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32294 AF680) or Alexa Fluor® 790 (sc-32294 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

IL-1 $\beta$  (E7-2-hIL1 $\beta$ ) is recommended for detection of IL-1 $\beta$  of human origin by Western blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 $\beta$  siRNA (h): sc-39615, IL-1 $\beta$  shRNA Plasmid (h): sc-39615-SH and IL-1 $\beta$  shRNA (h) Lentiviral Particles: sc-39615-V.

Molecular Weight of IL-1 $\beta$  precursor: 31 kDa.

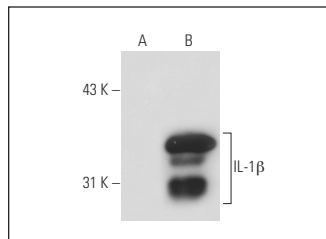
Molecular Weight of mature IL-1 $\beta$ : 17 kDa.

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

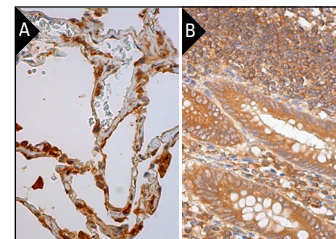
## STORAGE

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

## DATA



IL-1 $\beta$  (E7-2-hIL1 $\beta$ ): sc-32294. Western blot analysis of IL-1 $\beta$  expression in non-transfected: sc-110760 (A) and human IL-1 $\beta$  transfected: sc-111184 (B) 293 whole cell lysates.



IL-1 $\beta$  (E7-2-hIL1 $\beta$ ): sc-32294. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic staining of pneumocytes (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells and lymphoid cells (B).

## SELECT PRODUCT CITATIONS

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- Han, X., et al. 2018. Ginsenoside 25-OCH<sub>3</sub>-PPD promotes activity of LXRs to ameliorate P2X<sub>7</sub>R-mediated NLRP3 inflammasome in the development of hepatic fibrosis. *J. Agric. Food Chem.* 66: 7023-7035.
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- Farajdokht, F., et al. 2020. The role of hippocampal GABA<sub>A</sub> receptors on anxiolytic effects of *Echium amoenum* extract in a mice model of restraint stress. *Mol. Biol. Rep.* 47: 6487-6496.
- Lanza, M., et al. 2021. SCFA treatment alleviates pathological signs of migraine and related intestinal alterations in a mouse model of NTG-induced migraine. *Cells* 10: 2756.
- Lee, G.R., et al. 2022. Dynein light chain LC8 alleviates nonalcoholic steatohepatitis by inhibiting NF $\kappa$ B signaling and reducing oxidative stress. *J. Cell. Physiol.* 237: 3554-3564.
- Strisciuglio, C., et al. 2023. Increased expression of CB2 receptor in the intestinal biopsies of children with inflammatory bowel disease. *Pediatr. Res.* 93: 520-525.
- Chen, L.C., et al. 2023. Inactivation of mitochondrial pyruvate carrier promotes NLRP3 inflammasome activation and gout development via metabolic reprogramming. *Immunology* 169: 271-291.

## RESEARCH USE

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