SANTA CRUZ BIOTECHNOLOGY, INC.

IL-1ra (A-11): sc-376094

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. IL-1 receptor antagonist (IL-1ra) is a cytokine that inhibits IL-1α and IL-1β binding to interleukin receptors. By neutralizing the activity of IL-1, IL-1ra contributes to the inhibition of the immune and inflammatory responses and has been targeted as a drug for the treatment of severely active rheumatoid arthritis. There are four isoforms of IL-1ra that are produced as a result of alternative splicing events.

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. Carter, D.B., et al. 1990. Purification, cloning, expression and biological characterization of an interleukin-1 receptor antagonist protein. Nature 344: 633-638.
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.

CHROMOSOMAL LOCATION

Genetic locus: IL1RN (human) mapping to 2q14.1.

SOURCE

IL-1ra (A-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 17-53 near the N-terminus of IL-1ra of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-1ra (A-11) is available conjugated to agarose (sc-376094 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376094 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376094 PE), fluorescein (sc-376094 FITC), Alexa Fluor® 488 (sc-376094 AF488), Alexa Fluor® 546 (sc-376094 AF546), Alexa Fluor® 594 (sc-376094 AF594) or Alexa Fluor® 647 (sc-376094 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376094 AF680) or Alexa Fluor® 790 (sc-376094 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376094 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

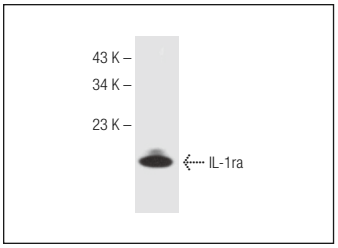
IL-1ra (A-11) is recommended for detection of IL-1ra of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-1ra siRNA (h): sc-39617, IL-1ra shRNA Plasmid (h): sc-39617-SH and IL-1ra shRNA (h) Lentiviral Particles: sc-39617-V.

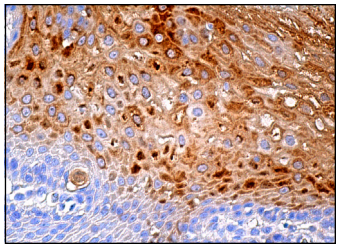
Molecular Weight of IL-1ra: 17-25 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or THP-1 cell lysate: sc-2238.

DATA



IL-1ra (A-11): sc-376094. Western blot analysis of IL-1ra expression in A-431 whole cell lysate.



IL-1ra (A-11): sc-376094. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Scuderi, S., et al. 2015. Different retinal expression patterns of IL-1α, IL-1β, and their receptors in a rat model of type 1 STZ-induced diabetes. J. Mol. Neurosci. 56: 431-439.
2. D'Amico, A.G., et al. 2019. NAP modulates hyperglycemic-inflammatory event of diabetic retina by counteracting outer blood retinal barrier damage. J. Cell. Physiol. 234: 5230-5240.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.