SANTA CRUZ BIOTECHNOLOGY, INC.

IL-1ra (H-110): sc-25444

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.

CHROMOSOMAL LOCATION

Genetic locus: IL1RN (human) mapping to 2q13; Il1rn (mouse) mapping to 2 A3.

SOURCE

IL-1ra (H-110) is a rabbit polyclonal antibody raised against amino acids 26-135 of IL-1ra of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IL-1ra (H-110) is recommended for detection of IL-1ra of mouse, rat and human 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)], 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 siRNA (m): sc-39618, IL-1ra shRNA Plasmid (h): sc-39617-SH, IL-1ra shRNA Plasmid (m): sc-39618-SH, IL-1ra shRNA (h) Lentiviral Particles: sc-39617-V and IL-1ra shRNA (m) Lentiviral Particles: sc-39618-V.

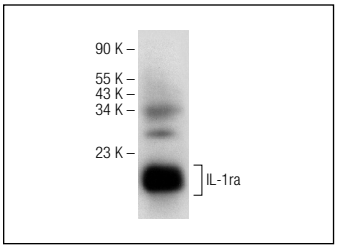
Molecular Weight of IL-1ra: 17-25 kDa.

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

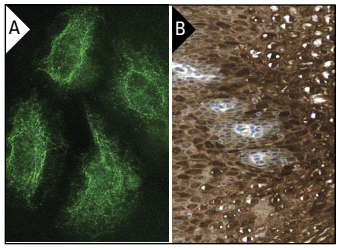
STORAGE

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

DATA



IL-1ra (H-110): sc-25444. Western blot analysis of IL-1ra expression in A-431 whole cell lysate.



IL-1ra (H-110): sc-25444. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Paran, D., et al. 2006. Somatostatin treatment attenuates proteinuria and prevents weight loss in NZB/W F1 mice. Lupus 15: 526-531.
2. Lu, P., et al. 2009. Enhanced experimental corneal neovascularization along with aberrant angiogenic factor expression in the absence of IL-1 receptor antagonist. Invest. Ophthalmol. Vis. Sci. 50: 4761-4768.
3. Brochu, M.E., et al. 2011. Developmental regulation of the neuroinflammatory responses to LPS and/or hypoxia-ischemia between preterm and term neonates: an experimental study. J. Neuroinflammation 8: 55.
4. Yilmaz, S., et al. 2013. Mesenchymal stem cell: does it work in an experimental model with acute respiratory distress syndrome? Stem Cell Rev. 9: 80-92.
5. Girard, S., et al. 2014. Circulating cytokines and alarmins associated with placental inflammation in high-risk pregnancies. Am. J. Reprod. Immunol. 72: 422-434.

RESEARCH USE

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

PROTOCOLS

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