

IL-1ra (Q-19): sc-8481

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. IL-1 receptor antagonist (IL-1ra) is a cytokine that inhibits IL-1 α and IL-1 β 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.
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 Intl.* 47: 837-844.
6. Zuniga-Pflucker, 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.

CHROMOSOMAL LOCATION

Genetic locus: IL1rn (mouse) mapping to 2 A3.

SOURCE

IL-1ra (Q-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of IL-1ra of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-8481 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

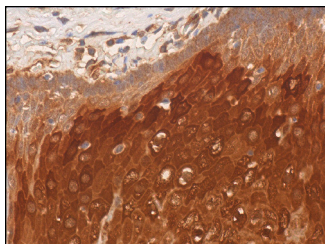
IL-1ra (Q-19) is recommended for detection of IL-1ra of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

IL-1ra (Q-19) is also recommended for detection of IL-1ra in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for IL-1ra siRNA (m): sc-39618, IL-1ra shRNA Plasmid (m): sc-39618-SH and IL-1ra shRNA (m) Lentiviral Particles: sc-39618-V.

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

DATA



IL-1ra (Q-19): sc-8481. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic and nuclear staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Devlin C.M., et al. 2002. Genetic alterations of IL-1 receptor antagonist in mice affect plasma cholesterol level and foam cell lesion size. *Proc. Natl. Acad. Sci. USA* 99: 6280-6285.
2. Machado-Neto, J.A., et al. 2011. Knockdown of Insulin receptor substrate 1 reduces proliferation and downregulates Akt/mTOR and MAPK pathways in K562 cells. *Biochim. Biophys. Acta* 1813: 1404-1411.

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.

MONOS
Satisfaction
Guaranteed

Try **IL-1ra (A-4): sc-374084** or **IL-1ra (A-11): sc-376094**, our highly recommended monoclonal alternatives to IL-1ra (Q-19).