

IL-1ra (A-4): sc-374084



The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

IL-1ra (A-4) is a mouse monoclonal antibody raised against amino acids 26-135 of IL-1ra of human origin.

PRODUCT

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

IL-1ra (A-4) is available conjugated to agarose (sc-374084 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374084 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374084 PE), fluorescein (sc-374084 FITC), Alexa Fluor[®] 488 (sc-374084 AF488), Alexa Fluor[®] 546 (sc-374084 AF546), Alexa Fluor[®] 594 (sc-374084 AF594) or Alexa Fluor[®] 647 (sc-374084 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374084 AF680) or Alexa Fluor[®] 790 (sc-374084 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

IL-1ra (A-4) 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 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).

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.

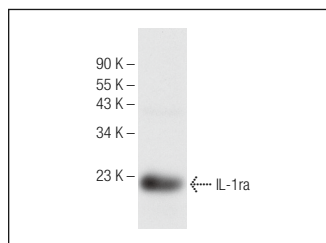
Molecular Weight of IL-1ra: 17-25 kDa.

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

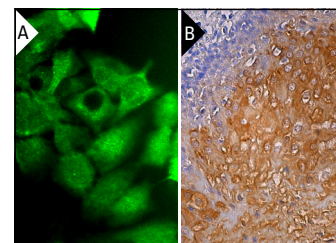
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



IL-1ra (A-4): sc-374084. Western blot analysis of IL-1ra expression in A-431 whole cell lysate.



IL-1ra (A-4): sc-374084. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

- Casamassa, A., et al. 2022. In brain post-ischemic plasticity, Na⁺/Ca²⁺ exchanger 1 and ASCL1 intervene in microglia-dependent conversion of astrocytes into neuronal lineage. *Cell Calcium* 105: 102608.
- Lien, H.C., et al. 2023. Transcriptomic alterations underlying metaplasia into specific metaplastic components in metaplastic breast carcinoma. *Breast Cancer Res.* 25: 11.
- Ahmadi, S., et al. 2024. Similar immune responses to α 1-oleate and Bacillus Calmette-Guerin treatment in patients with bladder cancer. *Cancer Med.* 13: e7091.
- Liu, Y.N., et al. 2024. Binding of interleukin-1 receptor antagonist to cholinergic receptor muscarinic 4 promotes immunosuppression and neuroendocrine differentiation in prostate cancer. *Cancer Lett.* 598: 217090.

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.