

IRAK-1 (H-273): sc-7883

BACKGROUND

Three structurally related ligands for IL-1Rs have been described. These include two agonists, IL-1 α and IL-1 β , and a specific receptor antagonist, IL-1R α . Two distinct receptors designated IL-1RI and IL-1RII have been identified, each of which belong to the Ig superfamily. The preponderance of evidence suggests IL-1RI to be the functional IL-1 receptor. Binding of IL-1 to its cognate receptor results in the activation of the NF κ B signaling pathway. The IL-1-dependent kinase termed IRAK (for IL-1 receptor-associated kinase) co-immunoprecipitates with activated IL-1RI and has been implicated as an upstream mediator of NF κ B activation. Additional support for this assertion comes from the fact that a related *Drosophila* protein, Pelle, is a known upstream activator of Dorsal, the *Drosophila* homolog of NF κ B.

CHROMOSOMAL LOCATION

Genetic locus: IRAK1 (human) mapping to Xq28; Irak1 (mouse) mapping to X A7.3.

SOURCE

IRAK-1 (H-273) is a rabbit polyclonal antibody raised against amino acids 440-712 mapping at the C-terminus of IRAK-1 of human origin.

PRODUCT

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

Available as agarose (sc-7883 AC) conjugate for immunoprecipitation, 500 μ g/0.25 ml agarose in 1 ml.

APPLICATIONS

IRAK-1 (H-273) is recommended for detection of IRAK-1 of mouse, rat and human 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).

Suitable for use as control antibody for IRAK-1 siRNA (h): sc-35704, IRAK-1 siRNA (m): sc-35705, IRAK-1 shRNA Plasmid (h): sc-35704-SH, IRAK-1 shRNA Plasmid (m): sc-35705-SH, IRAK-1 shRNA (h) Lentiviral Particles: sc-35704-V and IRAK-1 shRNA (m) Lentiviral Particles: sc-35705-V.

Molecular Weight of IRAK-1: 80 kDa.

Positive Controls: IRAK-1 (h5): 293T Lysate: sc-177399, K-562 whole cell lysate: sc-2203 or MCF7 whole cell lysate: sc-2206.

STORAGE

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

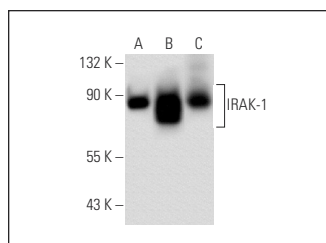
PROTOCOLS

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

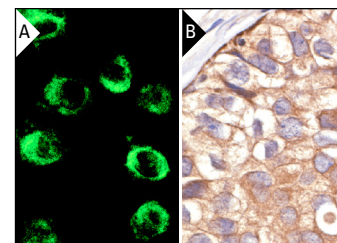
RESEARCH USE

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

DATA



IRAK-1 (H-273): sc-7883. Western blot analysis of IRAK-1 expression in non-transfected 293T: sc-117752 (A), human IRAK-1 transfected 293T: sc-177399 (B) and K-562 (C) whole cell lysates.



IRAK-1 (H-273): sc-7883. Immunofluorescence staining of methanol-fixed K-562 cells showing membrane and cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing membrane and cytoplasmic staining (B).

SELECT PRODUCT CITATIONS

- Bol, G., et al. 2000. Translocation of the interleukin-1 receptor-associated kinase-1 (IRAK-1) into the nucleus. *FEBS Lett.* 477: 73-78.
- Perry, M.M., et al. 2008. Rapid changes in microRNA-146 α expression negatively regulate the IL-1 β -induced inflammatory response in human lung alveolar epithelial cells. *J. Immunol.* 180: 5689-5698.
- Caldas-Lopes, E., et al. 2009. Hsp90 inhibitor PU-H71, a multimodal inhibitor of malignancy, induces complete responses in triple-negative breast cancer models. *Proc. Natl. Acad. Sci. USA* 106: 8368-8373.
- Chang, J., et al. 2009. Negative regulation of MyD88-dependent signaling by IL-10 in dendritic cells. *Proc. Natl. Acad. Sci. USA* 106: 18327-18332.
- Fernandez-Lizarbe, S., et al. 2009. Critical role of TLR4 response in the activation of microglia induced by ethanol. *J. Immunol.* 183: 4733-4744.
- Alfonso-Loeches, S., et al. 2010. Pivotal role of TLR4 receptors in alcohol-induced neuroinflammation and brain damage. *J. Neurosci.* 30: 8285-8295.
- Larner-Svensson, H.M., et al. 2010. Pharmacological studies of the mechanism and function of interleukin-1 β -induced miRNA-146 α expression in primary human airway smooth muscle. *Respir. Res.* 11: 68.
- Behrens, C., et al. 2010. Expression of interleukin-1 receptor-associated kinase-1 in non-small cell lung carcinoma and preneoplastic lesions. *Clin. Cancer Res.* 16: 34-44.
- Heinz, L.X., et al. 2012. The death domain-containing protein Unc5CL is a novel MyD88-independent activator of the pro-inflammatory IRAK signaling cascade. *Cell Death Differ.* 19: 722-731.



Try **IRAK-1 (F-4): sc-5288** or **IRAK-1 (B-5): sc-55530**, our highly recommended monoclonal alternatives to IRAK-1 (H-273). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **IRAK-1 (F-4): sc-5288**.