SANTA CRUZ BIOTECHNOLOGY, INC.

IRAK-1 (B-8): sc-515499

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Three structurally related ligands for IL-1Rs have been described. These include two agonists, IL-1α and IL-1β, and a specific receptor antagonist, IL-1Rα. 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 NFκB 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 NFκB 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 NFκB.

REFERENCES

1. Sims, J.E., et al. 1989. Cloning of the interleukin-1 receptor from human T cells. Proc. Natl. Acad. Sci. USA 86: 8946-8950.
2. McMahan, C.J., et al. 1991. A novel IL-1 receptor, cloned from B cells by mammalian expression, is expressed in many cell types. EMBO J. 10: 2821-2832.
3. Dower, S.K., et al. 1992. The interleukin-1 system: receptors, ligands and signals. Chem. Immunol. 51: 33-64.
4. Arend, W.P., et al. 1994. Binding of IL-1a, IL-1b and IL-1 receptor antagonist by soluble IL-1 receptors and levels of soluble IL-1 receptors in synovial fluids. J. Immunol. 153: 4766-4774.
5. Giri, J.G., et al. 1994. Elevated levels of shed type II IL-1 receptor in sepsis. Potential role for type II receptor in regulation of IL-1 responses. J. Immunol. 153: 5802-5809.
6. Croston, G.E., et al. 1995. NFκB activation by interleukin-1 (IL-1) requires an IL-1 receptor-associated protein kinase activity. J. Biol. Chem. 270: 16514-16517.

CHROMOSOMAL LOCATION

Genetic locus: IRAK1 (human) mapping to Xq28.

SOURCE

IRAK-1 (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 692-712 at the C-terminus of IRAK-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515499 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

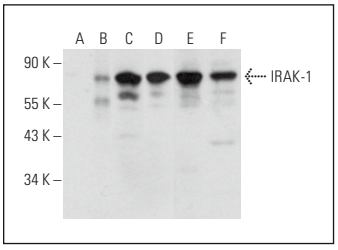
IRAK-1 (B-8) is recommended for detection of IRAK-1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and 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 shRNA Plasmid (h): sc-35704-SH and IRAK-1 shRNA (h) Lentiviral Particles: sc-35704-V.

Molecular Weight of IRAK-1: 80 kDa.

Positive Controls: IRAK-1 (h4): 293T Lysate: sc-177400, HeLa whole cell lysate: sc-2200 or SK-BR-3 cell lysate: sc-2218.

DATA



IRAK-1 (B-8): sc-515499. Western blot analysis of IRAK-1 expression in non-transfected 293T: sc-117752 (**A**), human IRAK-1 transfected 293T: sc-177400 (**B**), HeLa (**C**) and SK-BR-3 (**D**) whole cell lysates and MCF7 (**E**) and K-562 (**F**) nuclear extracts.

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.

CONJUGATES

See **IRAK-1 (F-4): sc-5288** for IRAK-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.