SANTA CRUZ BIOTECHNOLOGY, INC.

p-IRAK-1 (Ser 376): sc-130197

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-1Ra. 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-1 (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. Human IRAK-1 is subject to autophosphorylation on specific amino acid residues, such as Ser 376.

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.

CHROMOSOMAL LOCATION

Genetic locus: IRAK1 (human) mapping to Xq28.

SOURCE

p-IRAK-1 (Ser 376) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 376 phosphorylated IRAK-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-IRAK-1 (Ser 376) is recommended for detection of Ser 376 phosphorylated IRAK-1 of 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 IRAK-1 siRNA (h): sc-35704, IRAK-1 shRNA Plasmid (h): sc-35704-SH and IRAK-1 shRNA (h) Lentiviral Particles: sc-35704-V.

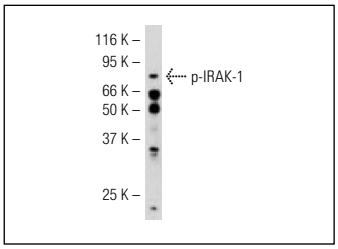
Molecular Weight of p-IRAK-1: 80 kDa.

Positive Controls: Ramos tissue extract.

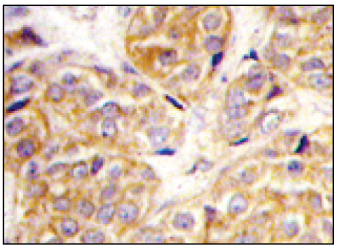
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-IRAK-1 (Ser 376): sc-130197. Western blot analysis of p-IRAK-1 expression in Ramos tissue extract.



p-IRAK-1 (Ser 376): sc-130197. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Dudás, J., et al. 2011. Tumor-produced, active Interleukin-1 β regulates gene expression in carcinoma-associated fibroblasts. Exp. Cell Res. 317: 2222-2229.
2. Xiang, W.Q., et al. 2011. Hepatitis B virus X protein stimulates IL-6 expression in hepatocytes via a MyD88-dependent pathway. J. Hepatol. 54: 26-33.
3. Stefani, C.B., et al. 2012. Expression of toll-like receptors in enterocromaffin-like cells and their function in histamine release. Dig. Dis. Sci. 57: 2270-2277.

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.

PROTOCOLS

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