SANTA CRUZ BIOTECHNOLOGY, INC.

IRAK-2 (B-22): sc-130788

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The interleukin-1 receptor-associated kinases (IRAKs) are important downstream signaling components of toll-like receptors (TLRs). Four mammalian IRAKs have been found, namely IRAK-1, IRAK-2, IRAK-4 and IRAK-M, all of which share sequence homology to the *Drosophila melanogaster* protein kinase Pelle, and all contain a death domain (DD). The DD is used for protein-protein interactions with the DDs of other molecules. IRAK2 uses its DD to mediate its interaction with MyD88. The IRAKs have putative kinase domains, although IRAK-1 has dispensable kinase activity because interleukin-1-induced NFκB activation could still be driven by a kinase-inactive mutant. Due to the absence of certain key residues within their putative kinase domains, both IRAK-2 and IRAK-M are catalytically inactive.

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. In Kishimoto, T., et al, eds. Interleukins: Molecular Biology and Immunology. Basel, Switzerland: S. Karger, 33.
4. Arend, W.P., et al. 1994. Binding of IL-1α, IL-1β 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.

CHROMOSOMAL LOCATION

Genetic locus: IRAK2 (human) mapping to 3p25.3.

SOURCE

IRAK-2 (B-22) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of IRAK-2 of human origin.

PRODUCT

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

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.

APPLICATIONS

IRAK-2 (B-22) is recommended for detection of IRAK-2 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IRAK-2 siRNA (h): sc-106916, IRAK-2 shRNA Plasmid (h): sc-106916-SH and IRAK-2 shRNA (h) Lentiviral Particles: sc-106916-V.

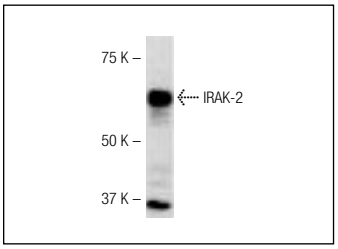
Molecular Weight of IRAK-2: 69 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

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 A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



IRAK-2 (B-22): sc-130788. Western blot analysis of IRAK-2 expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Cui, J.G., et al. 2010. Differential regulation of interleukin-1 receptor-associated kinase-1 (IRAK-1) and IRAK-2 by microRNA-146a and NFκB in stressed human astroglial cells and in Alzheimer disease. J. Biol. Chem. 285: 38951-38960.
2. Iyer, A., et al. 2012. MicroRNA-146a: a key regulator of astrocyte-mediated inflammatory response. PLoS ONE 7: e4478.