# SANTA CRUZ BIOTECHNOLOGY, INC.

# IRAK-2 (R-Q6): sc-100388



## 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 proteinprotein 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 NFkB 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.
- 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.
- 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-1 $\alpha$ , IL-1 $\beta$  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.
- 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.
- 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.
- 7. Cao, Z., et al. 1996. IRAK: a kinase associated with the interleukin-1 receptor. Science 271: 1128-1131.

#### **CHROMOSOMAL LOCATION**

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

## SOURCE

IRAK-2 (R-Q6) is a mouse monoclonal antibody raised against amino acids 111-210 IRAK-2 of human origin.

#### PRODUCT

Each vial contains 50  $\mu g$  lgG  $_1$  kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

#### **APPLICATIONS**

IRAK-2 (R-Q6) 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)], 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-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: K-562 whole cell lysate: sc-2203.

## **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.







IRAK-2 (R-Q6): sc-100388. Western blot analysis of IRAK-2 expression in K-562 whole cell lysate.

IRAK-2 (R-Q6): sc-100388. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human transitional cell carcinoma tissue showing membrane and evtoplasmic localization.

# **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.