SANTA CRUZ BIOTECHNOLOGY, INC.

IRAK-M (XX-6): sc-100389

BACKGROUND

Interleukin-1 receptor (IL-1R)-associated kinases (IRAKs) are important mediators in the signal transduction of Toll-like receptor (TLR) and IL-1R family members, collectively referred to as TIRs. Binding of IL-1 to its cognate receptor results in the activation of the NFκB signaling pathway. An IL-1-dependent kinase termed IRAK-1 (for IL-1 receptor-associated kinase 1) coimmunoprecipitates with activated IL-1RI and is implicated as an upstream mediator of NFκB activation. A related *Drosophila* protein, Pelle, is a known upstream activator of Dorsal, the *Drosophila* homolog of NFκB. IRAK-2 is a proximal mediator of IL-1, a component of the IL-1R signaling complex, and is required for IL-1R-induced NFκB activation. IRAK-4, like IRAK-1 and Pelle, has auto- and cross-phosphorylation kinase activity. IRAK-4 is strongly expressed in kidney and is also found in lung, testis, small intestine, breast, liver and placenta. In contrast to the other IRAKs that are expressed in most cell types, IRAK-M is restricted to monocytic cells. IRAK-M mRNA transcripts are found predominantly in PBL and the monocytic cell lines U-937 and THP-1.

REFERENCES

1. 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.
2. Cao, Z., et al. 1996. IRAK: a kinase associated with the interleukin-1 receptor. Science 271: 1128-1131.
3. Muzio, M., et al. 1997. IRAK (Pelle) family member IRAK-2 and MyD88 as proximal mediators of IL-1 signaling. Science 278: 1612-1615.
4. Scanlan, M.J., et al. 1999. Antigens recognized by autologous antibody in patients with renal-cell carcinoma. Int. J. Cancer 83: 456-464.
5. Wesche, H., et al. 1999. IRAK-M is a novel member of the Pelle/interleukin-1 receptor-associated kinase (IRAK) family. J. Biol. Chem. 274: 19403-19410.
6. Li, S., et al. 2002. IRAK-4: a novel member of the IRAK family with the properties of an IRAK-kinase. Proc. Natl. Acad. Sci. USA 99: 5567-5572.

CHROMOSOMAL LOCATION

Genetic locus: IRAK3 (human) mapping to 12q14.3.

SOURCE

IRAK-M (XX-6) is a mouse monoclonal antibody raised against recombinant IRAK-M of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of 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.

APPLICATIONS

IRAK-M (XX-6) is recommended for detection of IRAK-M 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-M siRNA (h): sc-39098, IRAK-M shRNA Plasmid (h): sc-39098-SH and IRAK-M shRNA (h) Lentiviral Particles: sc-39098-V.

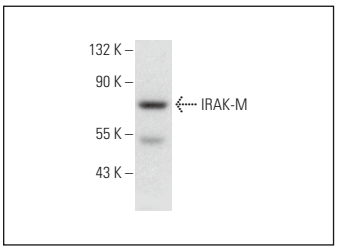
Molecular Weight of IRAK-M: 68 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or HL-60 whole cell lysate: sc-2209.

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™ Molecular Weight Standards: sc-2035, UltraCruz® 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).

DATA



IRAK-M (XX-6): sc-100389. Western blot analysis of IRAK-M expression in HL-60 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Miyata, M., et al. 2015. Glucocorticoids suppress inflammation via the upregulation of negative regulator IRAK-M. Nat. Commun. 6: 6062.
2. Espinosa-Riquer, Z.P., et al. 2019. TLR4 receptor induces 2-AG-dependent tolerance to lipopolysaccharide and trafficking of CB2 receptor in mast cells. J. Immunol. 202: 2360-2371.

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.