



Qty: 100µg/400 µL

Rabbit anti-IRAK1

Catalog No. 38-5600

Lot No.

## Rabbit anti-IRAK1

### FORM

This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.389

### IMMUNOGEN

Synthetic peptide derived from the C-terminal region of human IRAK1( Interleukin 1 receptor-associated kinase 1)

### SPECIFICITY

This antibody reacts with the C-terminal region of the human IRAK1 protein. On Western blots, it identifies the target band at ~75 kDa.

### REACTIVITY

Reactivity has been confirmed with human GIST882, HT-29, MCF-7 and MDA-MB231 cell lysates. Based on amino acid sequence homology, reactivity with mouse and rat is also expected.

Sample	Western Blotting	Immunoprecipitation
Human	+++	0*

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

\*No reactivity observed under conditions tested

### USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

**Western Blotting** : 1-3 µg/mL

### STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

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**BACKGROUND**

Members of the Interleukin (IL)-1 receptor-associated kinase (IRAK) family are part of the tyrosine kinase-like (TLK) group of kinases, and play a central role in IL-1R and TLR-mediated inflammatory responses to the cytokine IL-1. The first human IRAK to be cloned was IRAK-1<sup>1</sup>, followed by IRAK-2<sup>2</sup>, IRAK-M<sup>3</sup> and IRAK-4<sup>4</sup>. IRAK-1 regulates the activation of NF- $\kappa$ B<sup>3</sup>, which is a pivotal transcription factor mediating inflammatory and immune response. IRAK-1 is an IL-1-dependent kinase that coimmunoprecipitates with activated IL-1RI. The IRAKs share sequence homology to the *Drosophila melanogaster* protein kinase Pelle which is a known upstream activator of Dorsal, the *Drosophila* homolog of NF- $\kappa$ B<sup>1</sup>, and all contain a death domain (DD), which is used for protein-protein interactions with the DDs of other molecules. The IRAKs also have putative kinase domains<sup>5</sup>. Both IRAK-1 and IRAK-2 recruit to the subunits of the IL-1R complex after IL-1 binding and lead to NF- $\kappa$ B activation. IRAKs also associate with Toll-like receptors (TLRs) and the dominant negative mutants of IRAKs inhibit LPS induced NF- $\kappa$ B activation<sup>6-7</sup>. The calculated molecular weight of human IRAK-1a is ~78kDa, and its alternatively spliced splice variant IRAK-1b<sup>8</sup> is ~75kDa.

**REFERENCES**

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7. Zhang FX, et al. *J Biol Chem* 274:7611-4,1999.
8. Jensen LE and Whitehead AS. *J Biol Chem* 276:29037-44,2001.

**RELATED PRODUCTS**

<b>Product</b>	<b>Conjugate</b>	<b>Cat. No.</b>
Protein A	Sepharose <sup>®</sup> 4B	10-1041
rec-Protein G	Sepharose <sup>®</sup> 4B	10-1241

<b>Conjugate</b>	<b>ZyMAX<sup>™</sup> Goat x Rabbit IgG (H+L)</b>	<b>ZyMAX<sup>™</sup> Goat x Mouse IgG (H+L)</b>
Purified	81-6100	81-6500
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TRITC	81-6114	81-6514
Cy <sup>™</sup> 3	81-6115	81-6515
Cy <sup>™</sup> 5	81-6116	81-6516
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