



Qty: 100µg/400 µL

Rabbit anti-IRAK4

Catalog No. 36-5500

Lot No.

## Rabbit anti-IRAK4

### 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.329**

### IMMUNOGEN

Synthetic peptide derived from the N-terminal region of the human IRAK4 (IL-1 receptor associated kinase 4) protein. The peptide sequence is identical in mouse, human and rat.

### SPECIFICITY

This antibody reacts with the human IRAK4 protein. On Western blots, it identifies a single band at ~52 kDa.

### REACTIVITY

Reactivity has been confirmed with human HeLa cell lysates. Reactivity with mouse and rat is expected based on sequence homology.

Sample	Western Blotting	Immuno-precipitation (native)	Immuno-fluorescence
Human	+++	0*	+++
Mouse	ND	ND	ND
Rat	ND	ND	ND
Immunogen	ND	ND	ND

(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

**Immunofluorescence:** 10 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.

(cont'd)

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## BACKGROUND

(IRAKs) are important mediators in the signal transduction of the Toll/IL-1 receptor (TIR) family. Members of the TIR family play a role in innate immune responses by coordinating host defense mechanisms. IRAK4 is the most recently discovered IRAK protein.

IRAK-4 has been shown to interact with IRAK-1 and TRAF6 in an IL-1-dependent manner, and overexpression of IRAK-4 has been shown to activate NF $\kappa$ B as well as mitogen-activated protein (MAP) kinase pathways.<sup>1</sup> Studies demonstrate that mice lacking IRAK4 are severely impaired in their IL-1, Toll-like receptor (TLR) signaling and response to viral and bacterial challenges; this indicates that IRAK4 has an important role in innate immunity.<sup>2</sup> Humans lacking IRAK 4 exhibit pyogenic bacterial infections, while their blood and fibroblast cells fail to activate NF- $\kappa$ B.<sup>3</sup> IRAK-4 is believed to be required for the LPS-induced activation of antigen-presenting cells.<sup>4</sup>

## REFERENCES

1. Cao Z, et al. *Nature* 383: 443-6, 1996.
2. Suzuki N, et al. *Nature* 416: 750-6, 2002.
3. Picard C, et al. *Science* 299: 2076-9, 2003.
4. Suzuki N, et al. *J Immunol* 171: 6065-71, 2003.

## RELATED PRODUCTS

<b>Product</b>	<b>Clone/PAD*</b>	<b>Cat. No.</b>
Rabbit anti-TLR4	ZMD.301	36-3700
Rabbit anti-TLR5 (Mid)	ZMD.304	36-6000
Rabbit anti-TLR5 (Mid)	ZMD.303	36-3900
Rabbit anti-TLR7	ZMD.312	36-6500
Mouse anti-NF $\kappa$ B (p65)	2A12A7	33-9900
Rabbit anti-NF $\kappa$ B (p65)	P65C	51-0500
Rabbit anti-NF $\kappa$ B (p50)	ZK50	51-3500
Mouse anti-ERK1	ERK-6B11	13-8600
Mouse anti-ERK2	107	13-4800
Rabbit anti-ERK2	polyclonal	71-1800
Mouse anti-ERK3	ERK3-11D10	32-4100
Mouse anti-ERK2+ERK3	7D8	18-0376

Protein A	Sepharose <sup>®</sup> 4B	10-1041
rec-Protein G	Sepharose <sup>®</sup> 4B	10-1241

\*PAD: Polyclonal Antibody Designation

<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
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy <sup>™</sup> 3	81-6115	81-6515
Cy <sup>™</sup> 5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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