

IRAK4 ABfinity™ Recombinant Rabbit Monoclonal Antibody - Purified



REF Catalog no. 700026

(See product label for lot information)

Clone/PAD: 12H2L6
Isotype: IgG
Gene ID: 51135
Protein Acc. no.: Q9NWZ3
Qty: 100 µg
Volume: 200 µl
Concentration: 0.5 mg/ml

Formulation

PBS + 0.09% azide

Immunogen

A peptide corresponding to amino acids 41-52 of Q9NWZ3.

Immunogen sequence

KPSGDDRYNQFH

Reactivity

This antibody reacts with human IRAK4. Based on sequence identity and similarity, reactivity to mouse, rat, primates, sheep, equine, swine, bovine, canine and Xenopus is expected.

Storage

2-8°C for up to 1 mo, -20°C for long term storage. Avoid repeated freezing and thawing.



Expiration Date

Expires one year from date of receipt when stored as instructed.

Validated Applications:

	Species	Test Material	Concentration
Immunofluorescence	human	HeLa	4-6 µg/ml
Flow Cytometry	human	Jurkat	0.5-1 µg/test

Background

Interleukin-1 receptor-associated kinases (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 has been shown to interact with IRAK1 and TRAF6 in an IL-1-dependent manner, and overexpression of IRAK4 has been shown to activate NFκB as well as mitogen-activated protein (MAP) kinase pathways (1). 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 (2). Humans lacking IRAK4 exhibit pyogenic bacterial infections, while their blood and fibroblast cells fail to activate NF-κB (3). IRAK4 is believed to be required for the LPS-induced activation of antigen-presenting cells (4). IRAK4 activity is required for both adaptive and innate immune responses and is essential for removal of self-reactive B cells (5,6)

References

1. Cao Z, et al. (1996) TRAF6 is a signal transducer for interleukin-1. *Nature* 383: 443-6.
2. Suzuki N, et al. (2002) Severe impairment of interleukin-1 and Toll-like receptor signalling in mice lacking IRAK-4. *Nature* 416: 750-6.
3. Picard C, et al., (2003) Pyogenic Bacterial Infections in Humans with IRAK-4 Deficiency. *Science* 299: 2076-2079.
4. Suzuki, N, et al. (2003) IL-1R-Associated Kinase 4 Is Required for Lipopolysaccharide-Induced Activation of APC. *J. Immunol.* 171: 6065-6071.
5. Lye E, et al. (2008) IRAK-4 kinase activity is required for IRAK-4-dependent innate and adaptive immune responses. *Eur J Immunol.* 38(3):870-6.
6. Isnardi I, et al. (2008) IRAK-4- and MyD88-dependent pathways are essential for the removal of developing autoreactive B cells in humans. *Immunity* 29(5):746-57.

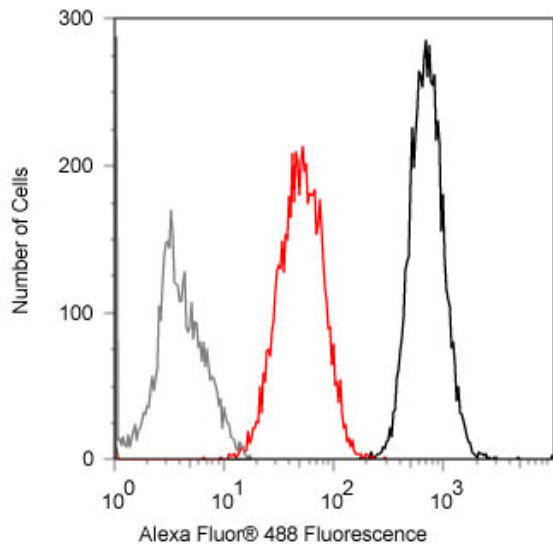
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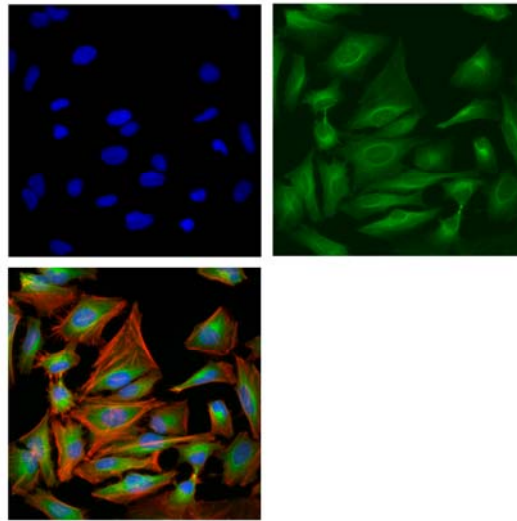
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Rev. 0.0



Flow cytometry of Jurkat cells labeled with rabbit anti-IRAK4 (Cat. No. 700026).

Jurkat cells were fixed and permeabilized using FIX & PERM® (Cat. No. GAS004) reagents. Cells were then stained with (black trace) or without (gray trace) 0.5 µg anti-IRAK4 followed by Alexa Fluor® 488 goat anti-rabbit Ig (Cat. No. A11008). Pre-incubation with the immunogenic peptide decreased the signal (red trace).



Immunocytochemistry of HeLa cells labeled with rabbit anti-IRAK4 (Cat. No. 700026).

HeLa cells were labeled with rabbit anti-IRAK4 (5 µg/ml). Alexa Fluor® 488 goat anti-rabbit (Cat. No. A11008) at 1:1000 was used as a secondary antibody. Actin was stained using Alexa Fluor® 568 Phalloidin at 1:200. Panels: Hoechst only (top left), IRAK4 (AF488) signal only (top right), and composite image with Phalloidin (bottom left).

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