BOSTER BIOLOGICAL TECHNOLOGY
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Anti-IRAK-4 Antibody

Catalog Number: A01247-1

About IRAK4

Interleukin-1 (IL-1) and lipopolysaccharide (LPS) induces cellular responses through IL-1 receptor (IL-1R) and Toll-like receptors (TLR). IL-1R-associated kinases (IRAK, IRAK2, and IRAK-M) regulate the activation of NF-kappaB and MAP kinase (MAPK) by IL-1R/TLR. A novel member in the IRAK/Pelle family was recently identified and designated IRAK-4. Overexpression of IRAK-4 activates NF-kappaB and MAPK pathways. IRAK-4 interacts with and phosphorylates IRAK-1. IRAK-4-deficient animals are completely resistant to the challenge with LPS. Animals and humans lacking IRAK-4 are impaired in their responses to viral and bacterial challenges. Members in IRAK/Pelle family play a central role in IL-1R/TLR mediated inflammatory responses and in innate immunity.

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Overview

Product Name	Anti-IRAK-4 Antibody
Reactive Species	Human
Description	Boster Bio Anti-IRAK-4 Antibody (Catalog # A01247-1). Tested in ELISA, WB, ICC, IF applications. This antibody reacts with Human.
Application	ELISA, IF, ICC, WB
Clonality	Polyclonal
Formulation	IRAK-4 Antibody is supplied in PBS containing ≤0.09% sodium azide.
Storage Instructions	IRAK-4 antibody can be stored at 4°C, stable for up to one year. Avoid repeated freeze-thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Host	Rabbit
Uniprot ID	Q9NWZ3

Technical Details

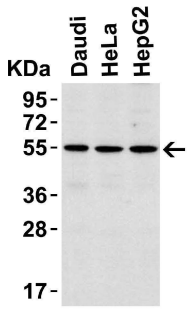
Immunogen	Anti-IRAK4 antibody was raised against a peptide corresponding to 13 amino acids near the carboxy terminus of human IRAK4. The immunogen is located within the last 50 amino acids of IRAK4.
Predicted Reactive Species	Bovine, Mouse, Rat

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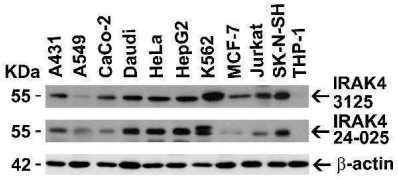
Cross Reactivity	IRAK-4 antibody is predicted to not cross-react with other members of the IRAK protein family.
Isotype	IgG
Form	Liquid
Concentration	1 mg/mL
Purification	IRAK-4 Antibody is affinity chromatography purified via peptide column.
Suggested Dilutions	WB: 1-4 ug/mL; ICC: 10 ug/mL; IF: 10 ug/mL. Antibody validated: Western Blot in human samples; Immunocytochemistry in human samples and Immunofluorescence in human samples. All other applications and species not yet tested. Optimal dilutions for each application should be determined by the researcher.

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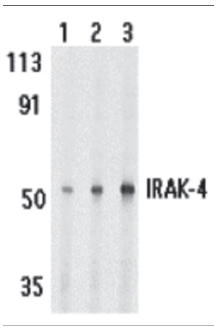
Anti-IRAK-4 Antibody (A01247-1) Images



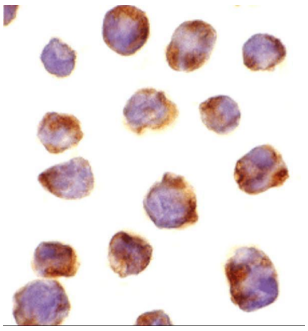
Western Blot Validation in Human Cell Lines Loading: 15 ug/ of lysates per lane. Antibodies: IRAK4 A01247-1 (1 ug/mL), 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.



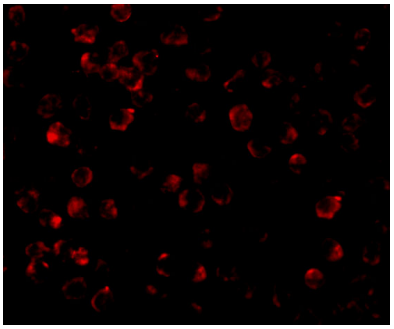
Independent Antibody Validation (IAV) via Protein Expression Profile in Cell Lines Loading: 15 ug of lysates per lane. Antibodies: IRAK4-A01247-1 (1 ug/mL), IRAK4-24-025 (1 ug/mL), beta-actin (1.5 ug/mL), 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.



Western Blot Validation in Human HeLa Cell Lines Loading: 15 ug of lysates per lane. Antibodies: IRAK4 A01247-1, 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. Lane 1: 1 ug/mL Lane 2: 2 ug/mL Lane 3: 4 ug/mL

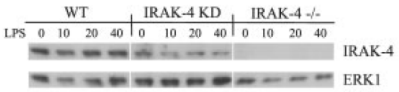


Immunocytochemistry Validation of IRAK4 in K562 Cells Immunocytochemical analysis of K562 cells using anti-IRAK4 antibody (A01247-1) at 10 ug/ml. Cells was fixed with formaldehyde and blocked with 10% serum for 1 h at RT; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody overnight at 4˚ C. A goat anti-rabbit IgG H&L (HRP) at 1/250 was used as secondary. Counter stained with Hematoxylin.

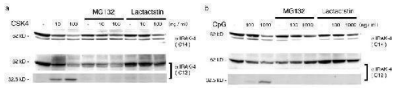


Immunofluorescence Validation of IRAK4 in K562 Cells Immunofluorescent analysis of 4% paraformaldehyde-fixed K562 Cells labeling IRAK4 with A01247-1 at 10 ug/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (red).

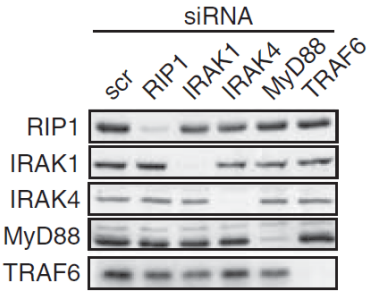
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KO and KD Validation of IRAK4 in Mouse Bone Marrow-derived Macrophages (BMDM) (Koziczak-Holbro et al., 2008) Western blot analysis with anti-IRAK4 antibodies was performed for IRAK4 in BMDM isolated from the mice. IRAK4 expression was not observed in the IRAK-4-/- cells and also reduced in IRAK4 mutant (IRAK-4 KD) when compared with WT.



Regulated Expression Validation of IRAK4 in Mouse RAW 264 Cells (Hatao et al., 2004) RAW 264 cells were stimulated with (a) CSK4 and (b) CpG-DNA in the absence or presence of proteasome inhibitors (MG132 and Lactactstin). When detected with anti-IRAK4 antibodies (C12 from ProSci, Inc.), IRAK4 expression was found to be reduced without the inhibitors. The smaller protein band, a cleavage product of IRAK4, was present in the absence of both inhibitors.



KD Validation of IRAK4 in HEK293T Cells (Heinz et al., 2012) Western blot analysis with anti-IRAK4 antibodies was performed for IRAK4 in HEK293T cells. IRAK4 expression was not observed in IRAK4 knockdown cells.

Anti-IRAK-4 Antibody

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