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Anti-IRAK IRAK1 Antibody

Catalog Number: A01021-2

About IRAK1

Nuclear factor kappa B (NF-kappaB) is a ubiquitous transcription factor and an essential mediator of gene expression during activation of immune and inflammatory responses. NF-kappaB mediates the expression of a great variety of genes in response to extracellular stimuli including IL-1, TNFalpha and LPS. A serine/threonine protein kinase associated with IL-1 receptor (IRAK) and its homologue mouse pelle-like protein kinase (mPLK) were identified recently. IRAK is associated with the IL-1 receptor subunits IL-1RI and IL-1RAcP after IL-1 binding and serves as a signaling molecule to mediate IL-1 response. IRAK mediates a signaling cascade leading to NF-kappaB activation by members in IL-1 family including IL-1 and a novel cytokine IL-18 (also termed IGIF).

Overview

Product Name	Anti-IRAK IRAK1 Antibody
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-IRAK IRAK1 Antibody (Catalog # A01021-2). Tested in ELISA, WB, ICC, IP, IF applications. This antibody reacts with Human, Mouse, Rat.
Application	ELISA, IP, IF, ICC, WB
Clonality	Polyclonal
Formulation	IRAK Antibody is supplied in PBS containing 0.02% sodium azide.
Storage Instructions	IRAK antibody can be stored at 4°C for three months and -20°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	P51617

Technical Details

Immunogen	Anti-IRAK antibody was raised against a peptide corresponding to 13 amino acids near the carboxy terminus of human IRAK. The immunogen is located within the last 50 amino acids of IRAK.
Predicted Reactive Species	Bovine
Cross Reactivity	At least four isoforms of IRAK are known to exist; this antibody will detect all four isoforms. IRAK antibody is predicted to not cross-react with other members of the IRAK protein family.
Isotype	IgG
Form	Liquid
Concentration	1 mg/mL

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Purification	IRAK Antibody is affinity chromatography purified via peptide column.
Suggested Dilutions	WB: 1-4 ug/mL; IF: 20 ug/mL; ICC: 10 ug/mL. Antibody validated: Western Blot in human, mouse and rat samples; Immunofluorescence and Immunocytochemistry 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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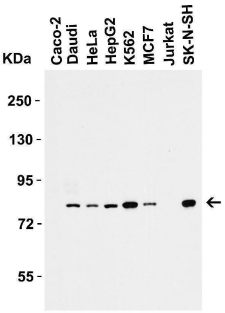
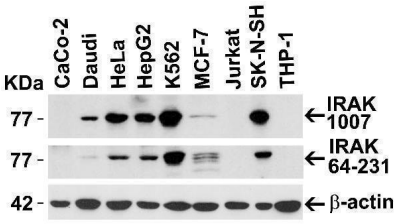
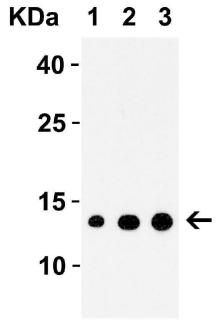
Anti-IRAK IRAK1 Antibody (A01021-2) Images



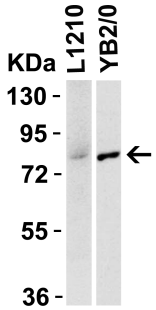
Western Blot Validation in Human Cell Lines Loading: 15 ug of lysates per lane. Antibodies: IRAK A01021-2 (1 ug/mL), 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.



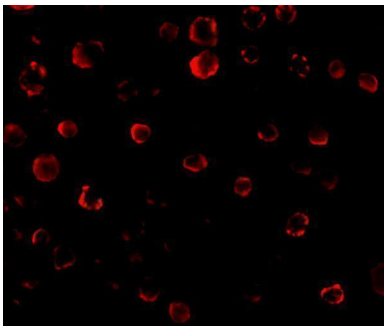
Independent Antibody Validation (IAV) via Protein Expression Profile in Cell Lines Loading: 15 ug of lysates per lane. Antibodies: IRAK A01021-2 (1 ug/mL), IRAK 64-231 (2 ug/mL), beta-actin (1 ug/mL), 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.



Western Blot Validation with Recombinant Protein Loading: 30 ng of human IRAK recombinant protein per lane. Antibodies: IRAK A01021-2 (1: 1 ug/mL, 2: 2 ug/mL and 3: 4 ug/mL), 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.



Species Activity in Mouse and Rat Cell Lines Loading: 15 ug of lysates per lane. Antibodies: IRAK A01021-2 (1 ug/mL,), 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.



Immunofluorescence Validation of IRAK in Human HeLa Cells Immunofluorescent analysis of 4% paraformaldehyde-fixed HeLa Cells labeling IRAK with A01021-2 at 20 ug/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (red).

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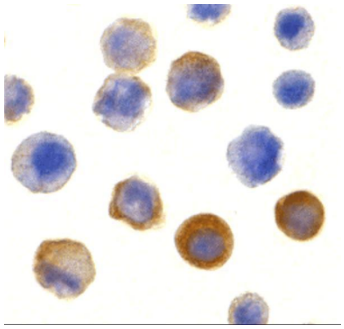
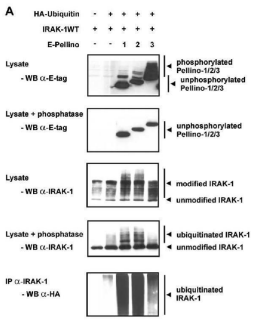
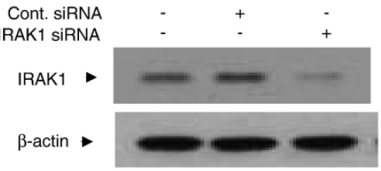


Immunocytochemistry Validation of IRAK in Human HeLa Cells Immunocytochemical analysis of HeLa cells using anti-IRAK antibody (A01021-2) at 10 ug/ml. Cells was fixed with formaldehyde and blocked with 10% serum for 1 h at RT; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples 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.



Immunoprecipitation and Overexpression Validation in HEK293T Cells(Schauvliege et al., 2006) Co-expression of Pellino proteins and IRAK-1 leads to Pellino phosphorylation and IRAK-1 polyubiquitination. (A) E-tagged Pellino proteins were co-expressed with IRAK-1WT and HA–ubiquitin in HEK293T cells. For assessment of IRAK-1 polyubiquitination, the same cell extracts, untreated or treated with phosphatase as described above, were analysed for slower migrating forms of IRAK-1 by Western blotting with anti-IRAK-1 (A01021-2). Ubiquitination was specifically detected by IRAK-1 immunoprecipitation followed by Western blotting with anti-HA antibodies.



KD Validation in Human Chondrocytes (Ahmad et al., 2007) Chondrocytes were transfected with 250 nM of IRAK1 or control siRNA for 48 h and lysates were analyzed for IRAK1 or beta-actin expression levels by immunoblotting. IRAK1 signal was disrupted in IRAK1 KD lysate.

Anti-IRAK IRAK1 Antibody

For Research Use Only. Not for use in diagnostic procedures.