BOSTER BIOLOGICAL TECHNOLOGY
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Anti-IRAK-1/IRAK1 Antibody Picoband®

Catalog Number: A01021-1

About IRAK1

Interleukin-1 receptor-associated kinase 1, also called IRAK1, is an enzyme that in humans is encoded by the IRAK1 gene. By radiation hybrid analysis, this gene is mapped to chromosome Xq28. Serine/threonine-protein kinase plays a critical role in initiating innate immune response against foreign pathogens. This gene involved in Toll-like receptor (TLR) and IL-1R signaling pathways. This gene encodes the interleukin-1 receptor-associated kinase 1, one of two putative serine/threonine kinases that become associated with the interleukin-1 receptor (IL1R) upon stimulation. This gene is partially responsible for IL1-induced upregulation of the transcription factor NF-kappa B.

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Overview

Product Name	Anti-IRAK-1/IRAK1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-IRAK-1/IRAK1 Antibody Picoband® catalog # A01021-1. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P51617

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human IRAK-1/IRAK1, identical to the related mouse and rat sequences.

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Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human Immunocytochemistry/Immunofluorescence, 5ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Human Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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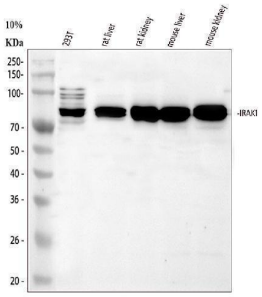
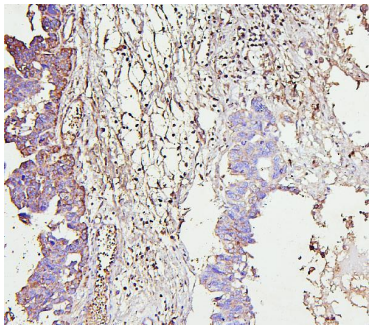
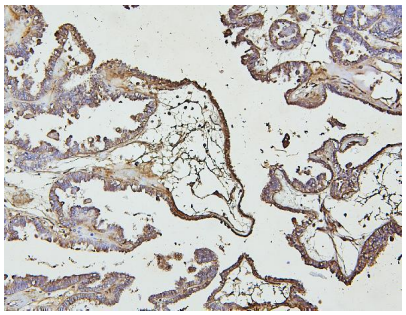
Anti-IRAK-1/IRAK1 Antibody Picoband® (A01021-1) Images



Western blot analysis of IRAK1 using anti-IRAK1 antibody (A01021-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human 293T whole cell lysates, Lane 2: rat liver tissue lysates, Lane 3: rat kidney tissue lysates, Lane 4: mouse liver tissue lysates, Lane 5: mouse kidney tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-IRAK1 antigen affinity purified polyclonal antibody (Catalog # A01021-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for IRAK1 at approximately 77 kDa. The expected band size for IRAK1 is at 77 kDa.



IHC analysis of IRAK1 using anti-IRAK1 antibody (A01021-1). IRAK1 was detected in paraffin-embedded section of human Ovarian cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-IRAK1 Antibody (A01021-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of IRAK1 using anti-IRAK1 antibody (A01021-1). IRAK1 was detected in paraffin-embedded section of human Ovarian cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-IRAK1 Antibody (A01021-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

Flow Cytometry analysis of A549 cells using anti-IRAK1 antibody (A01021-1). Overlay histogram showing A549 cells stained with A01021-1 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were

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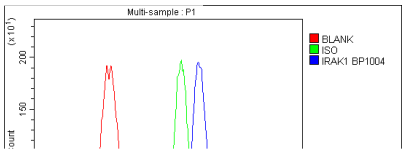
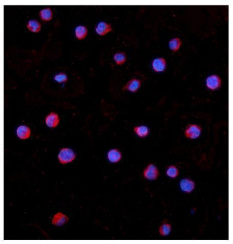


blocked with 10% normal goat serum. And then incubated with rabbit anti-IRAK1 Antibody (A01021-1,1ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



IF analysis of IRAK1 using anti- IRAK1 antibody (A01021-1). IRAK1 was detected in immunocytochemical section of K562 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5ug/mL rabbit anti-IRAK1 Antibody (A01021-1) overnight at 4°C. DyLight®594 Conjugated Goat Anti-Rabbit IgG (BA1142) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

Anti-IRAK-1/IRAK1 Antibody

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