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IRAK4 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7805a

Specification

IRAK4 Antibody (N-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	Q9NWZ3
Other Accession	Q8R4K2, Q1RMT8, NP_057207
Reactivity	**Human**
Predicted	**Bovine, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**5-36**

IRAK4 Antibody (N-term) - Additional Information

Gene ID 51135

Other Names
Interleukin-1 receptor-associated kinase 4, IRAK-4, Renal carcinoma antigen NY-REN-64, IRAK4

Target/Specificity
This IRAK4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 5-36 amino acids from the N-terminal region of human IRAK4.

Dilution
WB~~1:1000
IHC-P~~1:50~100
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
IRAK4 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

IRAK4 Antibody (N-term) - Protein Information

Name IRAK4

Function Serine/threonine-protein kinase that plays a critical role in initiating innate immune response against foreign pathogens. Involved in Toll-like receptor (TLR) and IL-1R signaling pathways (PubMed:17878374). Is rapidly recruited by MYD88 to the receptor- signaling complex upon TLR activation to form the Myddosome together with IRAK2. Phosphorylates initially IRAK1, thus stimulating the kinase activity and intensive autophosphorylation of IRAK1. Phosphorylates E3 ubiquitin ligases Pellino proteins (PELI1, PELI2 and PELI3) to promote pellino-mediated polyubiquitination of IRAK1. Then, the ubiquitin- binding domain of IKBKG/NEMO binds to polyubiquitinated IRAK1 bringing together the IRAK1-MAP3K7/TAK1-TRAF6 complex and the NEMO-IKKA-IKKB complex. In turn, MAP3K7/TAK1 activates IKKs (CHUK/IKKA and IKBKB/IKKB) leading to NF-kappa-B nuclear translocation and activation. Alternatively, phosphorylates TIRAP to promote its ubiquitination and subsequent degradation. Phosphorylates NCF1 and regulates NADPH oxidase activation after LPS stimulation suggesting a similar mechanism during microbial infections.

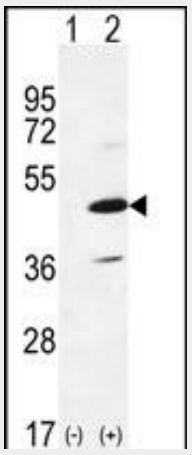
Cellular Location
Cytoplasm.

IRAK4 Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

IRAK4 Antibody (N-term) - Images



Western blot analysis of IRAK4 (arrow) using rabbit polyclonal IRAK4 Antibody (R20) (Cat. #AP7805a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the IRAK4 gene.

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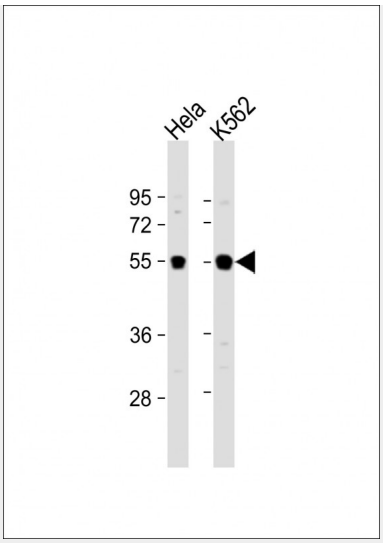
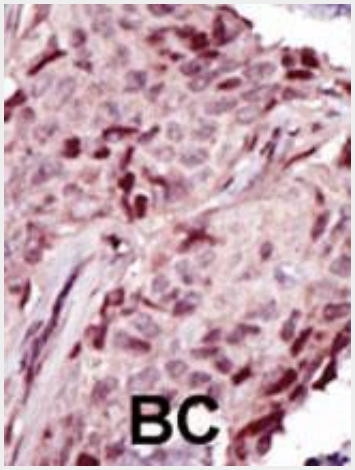


All lanes : Anti-IRAK4 Antibody (N-term) at 1:1000 dilution Lane 1: Hela whole cell lysate Lane 2: K562 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 52 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

IRAK4 Antibody (N-term) - Background

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the g phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains.
The tyrosine-like kinase (TLK) group consists of 40 tyrosine and serine-threonine kinases such as MLK (mixed-lineage kinase), LISK (LIMK/TESK), IRAK (interleukin-1 receptor-associated kinase), Raf, RIPK (receptor-interacting protein kinase), and STRK (activin and TGF-beta receptors) families.

IRAK4 Antibody (N-term) - References

Medvedev, A.E., et al., J. Exp. Med. 198(4):521-531 (2003).
Jiang, Z., et al., J. Biol. Chem. 278(13):10952-10956 (2003).
Picard, C., et al., Science 299(5615):2076-2079 (2003).
Li, S., et al., Proc. Natl. Acad. Sci. U.S.A. 99(8):5567-5572 (2002).
Suzuki, N., et al., Nature 416(6882):750-756 (2002).

IRAK4 Antibody (N-term) - Citations

- Protein kinase D1 is essential for MyD88-dependent TLR signaling pathway.