10320 Camino Santa Fe, Suite G
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Tel: 858.875.1900 Fax: 858.875.1999

IRAK4 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1598a

Specification

IRAK4 Antibody - Product Information

Application	**E, WB, IHC, FC**
Primary Accession	Q9NWZ3
Reactivity	**Human, Mouse, Monkey**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**52kDa KDa**

Description
This gene encodes a kinase that activates NF-kappaB in both the Toll-like receptor (TLR) and T-cell receptor (TCR) signaling pathways. The protein is essential for most innate immune responses. Mutations in this gene result in IRAK4 deficiency and recurrent invasive pneumococcal disease. Multiple transcript variants encoding different isoforms have been found for this gene.

Immunogen
Purified recombinant fragment of human IRAK4 expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

IRAK4 Antibody - Additional Information

Gene ID 51135

Other Names
Interleukin-1 receptor-associated kinase 4, IRAK-4, 2.7.11.1, Renal carcinoma antigen NY-REN-64, IRAK4

Dilution
E~~1/10000
WB~~1/500 - 1/2000
IHC~~1/200 - 1/1000
FC~~1/200 - 1/400

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
IRAK4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

IRAK4 Antibody - Protein Information

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Name IRAK4

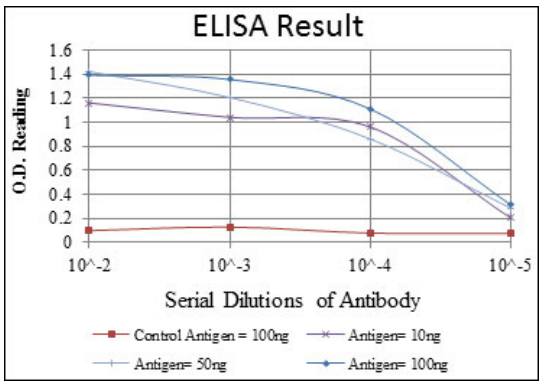
Function
Serine/threonine-protein kinase that plays a critical role in initiating innate immune response against foreign pathogens. Involved in Toll-like receptor (TLR) and IL-1R signaling pathways (PubMed:17878374). Is rapidly recruited by MYD88 to the receptor- signaling complex upon TLR activation 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 - 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



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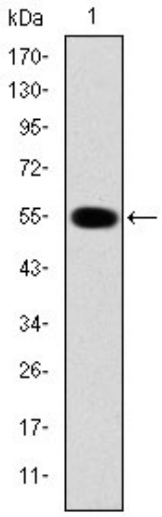


Figure 1: Western blot analysis using IRAK4 mAb against human IRAK4 (AA: 21-198) recombinant protein. (Expected MW is 45.4 kDa)

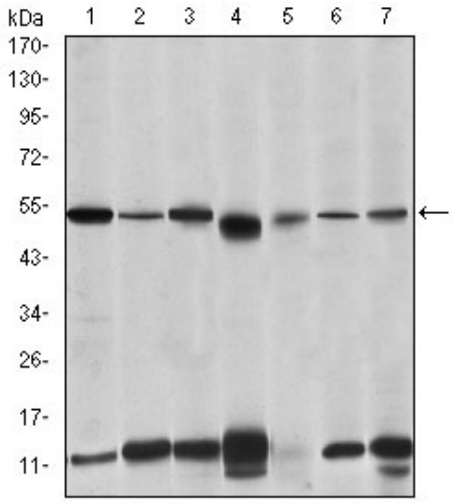


Figure 2: Western blot analysis using IRAK4 mouse mAb against THP-1 (1), Hela (2), K562 (3), MCF-7 (4), RAW264.7 (5), Jurkat (6) and Cos7 (7) cell lysate.

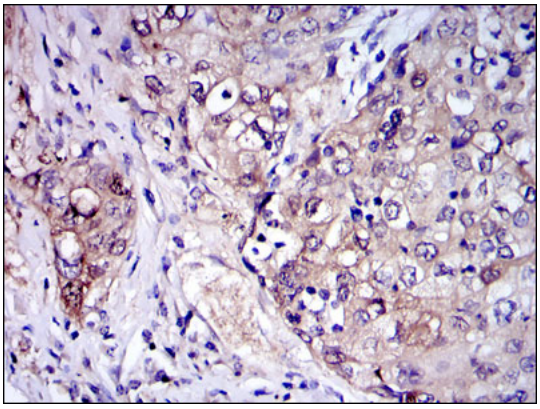


Figure 3: Immunohistochemical analysis of paraffin-embedded human lung cancer tissues using IRAK4 mouse mAb with DAB staining.

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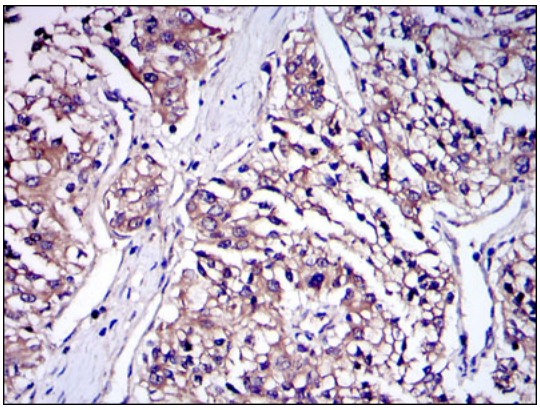


Figure 4: Immunohistochemical analysis of paraffin-embedded human kidney cancer tissues using IRAK4 mouse mAb with DAB staining.

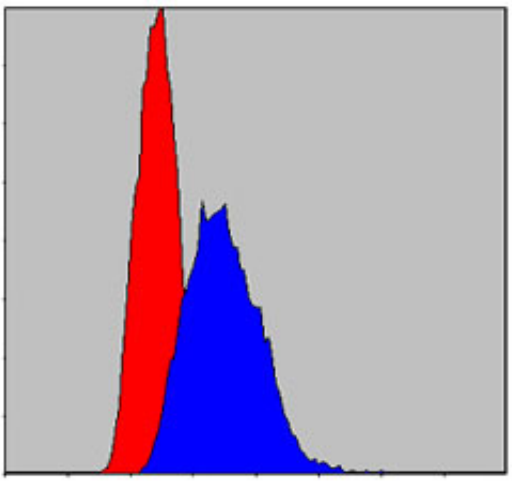


Figure 5: Flow cytometric analysis of Hela cells using IRAK4 mouse mAb (blue) and negative control (red).

IRAK4 Antibody - References

1. J Biol Chem. 2010 Jun 11;285(24):18276-82. 2. Scand J Immunol. 2009 Sep;70(3):264-76.