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IRAK4 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1598a

Product Information

Application	WB, IHC, FC, E
Primary Accession	Q9NWZ3
Reactivity	Human, Mouse, Monkey
Host	Mouse
Clonality	Monoclonal
Clone Names	2H9
Isotype	IgG1
Calculated MW	51530
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.

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

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.

References

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

Images

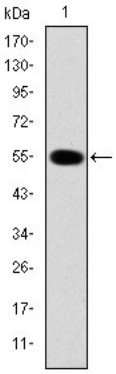

Figure 1: Western blot analysis using IRAK4 mAb against human IRAK4 (AA: 21-198) recombinant protein. (Expected MW is 45.4 kDa)

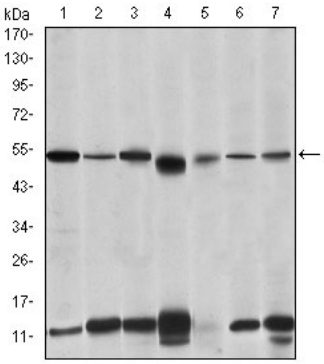

Figure 2: Western blot analysis using IRAK4 mouse mAb against THP-1 (1), Hela (2), K562 (3), MCF-7 (4), RAW264.7 (5), Jurkat (6) and Cos7 (7) cell lysate.

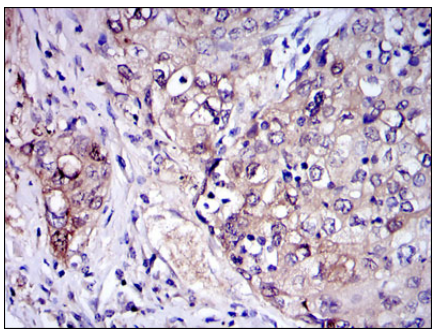

Figure 3: Immunohistochemical analysis of paraffin-embedded human lung cancer tissues using IRAK4 mouse mAb with DAB staining.

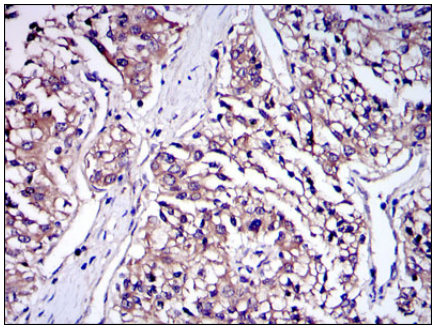

Figure 4: Immunohistochemical analysis of paraffin-embedded human kidney cancer tissues using IRAK4 mouse mAb with DAB staining.

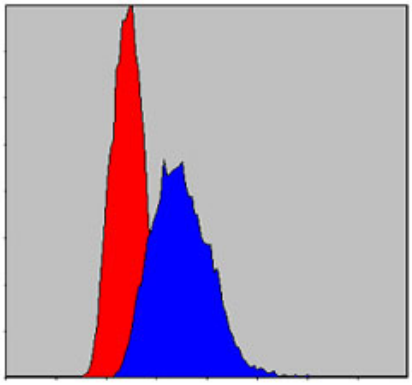

Figure 5: Flow cytometric analysis of Hela cells using IRAK4 mouse mAb (blue) and negative control (red).