10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Mouse Irak1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14440C

Product Information

Application	WB, FC, E
Primary Accession	Q62406
Other Accession	NP_001171447.1, NP_032389.2
Reactivity	Mouse
Predicted	Rat, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34794
Calculated MW	77269
Antigen Region	405-433

Additional Information

Gene ID	16179
Other Names	Interleukin-1 receptor-associated kinase 1, IRAK, IRAK-1, Pelle-like protein kinase, mPLK, Irak1, Il1rak
Target/Specificity	This Mouse Irak1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 405-433 amino acids from the Central region of mouse Irak1.
Dilution	WB~~1:1000 FC~~1:10~50 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	Mouse Irak1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Irak1
Synonyms	Il1rak

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. Is rapidly recruited by MYD88 to the receptor-signaling complex upon TLR activation. Association with MYD88 leads to IRAK1 phosphorylation by IRAK4 and subsequent autophosphorylation and kinase activation. 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 the interferon regulatory factor 7 (IRF7) to induce its activation and translocation to the nucleus, resulting in transcriptional activation of type I IFN genes, which drive the cell in an antiviral state. When sumoylated, translocates to the nucleus and phosphorylates STAT3 (By similarity).
Cellular Location	Cytoplasm. Nucleus. Lipid droplet. Note=Translocates to the nucleus when sumoylated (By similarity). RSAD2/viperin recruits it to the lipid droplet.
Tissue Location	Highly expressed in liver, followed by kidney and skeletal muscle.

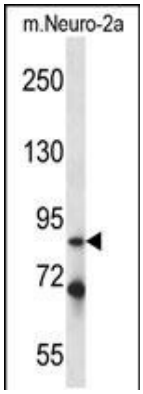
Background

Irak1 binds to the IL-1 type I receptor following IL-1 engagement, triggering intracellular signaling cascades leading to transcriptional up-regulation and mRNA stabilization. The kinase activity of this enzyme may not be required for IL-1 signaling. Once phosphorylated, IRAK1 recruits the adapter protein PELI1.

References

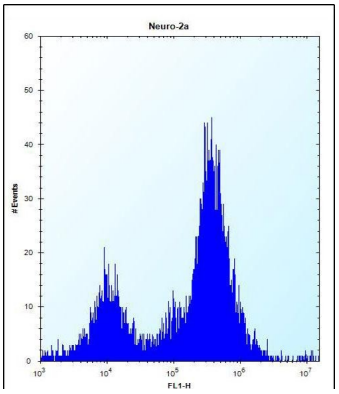
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Gan, L., et al. Mol. Immunol. 47(6):1278-1282(2010)
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Images



Mouse Irak1 Antibody (Center) (Cat. #AP14440c) western blot analysis in mouse Neuro-2a cell line lysates (35ug/lane).This demonstrates the Irak1 antibody detected the Irak1 protein (arrow).

Mouse Irak1 Antibody (Center) (Cat. #AP14440c) flow cytometric analysis of Neuro-2a cells (right histogram) compared to a negative control cell (left



histogram).FITC-conjugated donkey-anti-rabbit secondary antibodies were used for the analysis.

Citations

- The anti-inflammatory effect and potential mechanism of cardamonin in DSS-induced colitis.

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