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Anti-IRAK Antibody
Catalog # ABO11493

Specification

Anti-IRAK Antibody - Product Information

Application	**WB**
Primary Accession	P51617
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Interleukin-1 receptor-associated kinase 1(IRAK1) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-IRAK Antibody - Additional Information

Gene ID 3654

Other Names
Interleukin-1 receptor-associated kinase 1, IRAK-1, 2.7.11.1, IRAK1, IRAK

Calculated MW
76537 MW KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization
Cytoplasm . Nucleus . Lipid droplet . Translocates to the nucleus when sumoylated. RSAD2/viperin recruits it to the lipid droplet (By similarity). .

Tissue Specificity
Isoform 1 and isoform 2 are ubiquitously expressed in all tissues examined, with isoform 1 being more strongly expressed than isoform 2. .

Protein Name
Interleukin-1 receptor-associated kinase 1

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the N-terminus of human IRAK(18-37aa FLYEVPPWVMCRFYKVMDAL), identical to the related rat and mouse sequences.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage	**At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Sequence Similarities
Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family. Pelle subfamily.

Anti-IRAK Antibody - Protein Information

Name IRAK1 (HGNC:6112)

Synonyms IRAK

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.

Cellular Location
Cytoplasm. Nucleus. Lipid droplet Note=Translocates to the nucleus when sumoylated. RSAD2/viperin recruits it to the lipid droplet (By similarity).

Tissue Location
Isoform 1 and isoform 2 are ubiquitously expressed in all tissues examined, with isoform 1 being more strongly expressed than isoform 2.

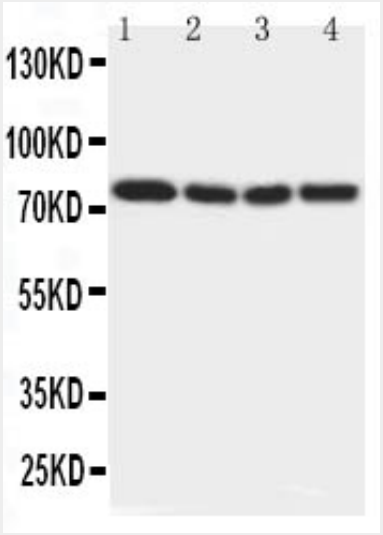
Anti-IRAK Antibody - Protocols

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

Anti-IRAK Antibody - Images



Anti-IRAK antibody, ABO11493, Western blottingLane 1: Rat Liver Tissue LysateLane 2: Human Placenta Tissue LysateLane 3: MCF-7 Cell LysateLane 4: PANC Cell Lysate

Anti-IRAK Antibody - Background

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.