

Anti-IRAK Picoband Antibody

Catalog # ABO12914

Product Information

Application	WB, E
Primary Accession	P51617
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for IRAK detection. Tested with WB, Direct ELISA in Human;Mouse;Rat.

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

Additional Information

Gene ID	3654
Other Names	Interleukin-1 receptor-associated kinase 1, IRAK-1, 2.7.11.1, IRAK1, IRAK
Calculated MW	76537
Application Details	Western blot, 0.1-0.5 µg/ml Direct ELISA, 0.1-0.5 µg/ml
Subcellular Localization	Cytoplasm.
Tissue Specificity	Isoform 1 and isoform 2 are ubiquitously expressed in all tissues examined, with isoform 1 being more strongly expressed than isoform 2.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Immunogen	E. coli-derived human IRAK recombinant protein (Position: M377-D479).
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.

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.

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.

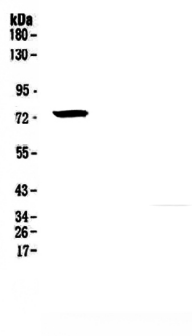
Images

Figure 1. Western blot analysis of IRAK using anti-IRAK antibody (ABO12914).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.