

**Mouse Irak1 Antibody (Center) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP14440c****Specification**

---

**Mouse Irak1 Antibody (Center) Blocking Peptide - Product Information**Primary Accession [Q62406](#)**Mouse Irak1 Antibody (Center) Blocking Peptide - Additional Information****Gene ID** 16179**Other Names**

Interleukin-1 receptor-associated kinase 1, IRAK, IRAK-1, Pelle-like protein kinase, mPLK, Irak1, Il1rak

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**Mouse Irak1 Antibody (Center) Blocking Peptide - 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.

**Mouse Irak1 Antibody (Center) Blocking Peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

**Mouse Irak1 Antibody (Center) Blocking Peptide - Images****Mouse Irak1 Antibody (Center) Blocking Peptide - 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.

**Mouse Irak1 Antibody (Center) Blocking Peptide - References**

Vaughan, T., et al. Mol. Immunol. 47(15):2515-2518(2010)Hoshino, K., et al. J. Immunol. 184(7):3341-3345(2010)Dong, J.W., et al. Am. J. Physiol. Heart Circ. Physiol. 298 (3), H1079-H1087 (2010) :Gan, L., et al. Mol. Immunol. 47(6):1278-1282(2010)Maitra, U., et al. J. Biol. Chem. 284(51):35403-35411(2009)