

IRAK1 Blocking Peptide (C-term)

Synthetic peptide

Catalog # BP21618b

Specification

IRAK1 Blocking Peptide (C-term) - Product Information

Primary Accession [P51617](#)

IRAK1 Blocking Peptide (C-term) - Additional Information

Gene ID 3654

Other Names

Interleukin-1 receptor-associated kinase 1, IRAK-1, IRAK1, IRAK

Target/Specificity

The synthetic peptide sequence is selected from aa 608-619 of HUMAN IRAK1

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.

IRAK1 Blocking Peptide (C-term) - 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

IRAK1 Blocking Peptide (C-term) - Background

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.

IRAK1 Blocking Peptide (C-term) - References

Cao Z.,et al.Science 271:1128-1131(1996).
Reichwald K.,et al.Mamm. Genome 11:182-190(2000).
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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.

**IRAK1 Blocking Peptide (C-term) -
Protocols**

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

- [Blocking Peptides](#)