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

IRAK4 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP7805b

Specification

IRAK4 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession	Q9NWZ3
Other Accession	NP_057207

IRAK4 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 51135

Other Names
Interleukin-1 receptor-associated kinase 4, IRAK-4, Renal carcinoma antigen NY-REN-64, IRAK4

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7805b was selected from the C-term region of human IRAK4 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

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.

IRAK4 Antibody (C-term) Blocking Peptide - Protein Information

Name IRAK4

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 (PubMed:17878374). Is rapidly recruited by MYD88 to the receptor- signaling complex upon TLR activation to form the Myddosome together with IRAK2. Phosphorylates initially IRAK1, thus stimulating the kinase activity and intensive autophosphorylation of IRAK1. 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 NCF1 and regulates NADPH oxidase activation after LPS stimulation suggesting a similar mechanism during microbial infections.

Cellular Location
Cytoplasm.

IRAK4 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

IRAK4 Antibody (C-term) Blocking Peptide - Images

IRAK4 Antibody (C-term) Blocking Peptide - Background

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the g phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains.The tyrosine-like kinase (TLK) group consists of 40 tyrosine and serine-threonine kinases such as MLK (mixed-lineage kinase), LISK (LIMK/TESK), IRAK (interleukin-1 receptor-associated kinase), Raf, RIPK (receptor-interacting protein kinase), and STRK (activin and TGF-beta receptors) families.

IRAK4 Antibody (C-term) Blocking Peptide - References

Medvedev, A.E., et al., J. Exp. Med. 198(4):521-531 (2003).Jiang, Z., et al., J. Biol. Chem. 278(13):10952-10956 (2003).Picard, C., et al., Science 299(5615):2076-2079 (2003).Li, S., et al., Proc. Natl. Acad. Sci. U.S.A. 99(8):5567-5572 (2002).Suzuki, N., et al., Nature 416(6882):750-756 (2002).