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ALPK1 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP7109a

Specification

ALPK1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q96QP1

ALPK1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 80216

Other Names
Alpha-protein kinase 1, 2711-, Chromosome 4 kinase, Lymphocyte alpha-protein kinase, ALPK1, KIAA1527, LAK

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7109a was selected from the N-term region of human ALPK1. 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.

ALPK1 Antibody (N-term) Blocking Peptide - Protein Information

Name ALPK1 {ECO:0000303|PubMed:30111836, ECO:0000312|HGNC:HGNC:20917}

Function
Serine/threonine-protein kinase that detects bacterial pathogen-associated molecular pattern metabolites (PAMPs) and initiates an innate immune response, a critical step for pathogen elimination and engagement of adaptive immunity (PubMed:28222186, PubMed:28877472, PubMed:30111836). Specifically recognizes and binds ADP-D-glycero-beta- D-manno-heptose (ADP-Heptose), a potent PAMP present in all Gram- negative and some Gram-positive bacteria (PubMed:30111836). ADP-Heptose-binding stimulates its kinase activity to phosphorylate and activate TIFA, triggering pro-inflammatory NF-kappa-B signaling (PubMed:<a

href="http://www.uniprot.org/citations/30111836" target="_blank">30111836). May be involved in monosodium urate monohydrate (MSU)-induced inflammation by mediating phosphorylation of unconventional myosin MYO9A (PubMed:27169898). May also play a role in apical protein transport by mediating phosphorylation of unconventional myosin MYO1A (PubMed:15883161). May play a role in ciliogenesis (PubMed:30967659).

Cellular Location
Cytoplasm, cytosol. Cytoplasm, cytoskeleton, spindle pole Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cell projection, cilium. Note=Localized at the base of primary cilia.

Tissue Location
Highly expressed in liver. Expressed in the optic nerve and retinal pigmented epithelium. Lower expression is observed in the macula and extramacular retina (PubMed:30967659)

ALPK1 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

ALPK1 Antibody (N-term) Blocking Peptide - Images

ALPK1 Antibody (N-term) Blocking Peptide - Background

Unlike most eukaryotic kinases, alpha kinases, such as ALPK1, recognize phosphorylation sites in which the surrounding peptides have an alpha-helical conformation. Epithelial cells maintain a polarized structure based on a selective sorting machinery for cargo traveling to the apical or the basolateral membrane domain at the trans-Golgi network exit. Alpha-kinase 1 (ALPK1)is a compnent of raft-carrying apical vesicles, originally identified in vesicles ferrying raft-associated sucrase-isomaltase (SI). It has been proposed that phosphorylation of myosin I by ALPK1 is essential to the apical trafficking of raft-associated SI.

ALPK1 Antibody (N-term) Blocking Peptide - References

Heine, M., et al., J. Biol. Chem. 280(27):25637-25643 (2005).Yamada, S., et al., Oncogene 23(35):5901-5911 (2004).Ryazanova, L.V., et al., Mol. Biol. (N.Y.) 35, 271-283 (2001) ():
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