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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,

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) (): ().Ryazanov, A.G., et al., Curr. Biol. 9 (2), R43-R45 (1999) (): ().

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:28877472, PubMed:28222186, 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 proinflammatory NF-kappa-B signaling (PubMed: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).

Cellular Location
Cytoplasm, cytosol.

Tissue Location
Highly expressed in liver.

ALPK1 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides