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AAK1 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP7861a

Specification

AAK1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q2M2I8

AAK1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 22848

Other Names
AP2-associated protein kinase 1, Adaptor-associated kinase 1, AAK1, KIAA1048

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7861a was selected from the N-term region of human AAK1. 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.

AAK1 Antibody (N-term) Blocking Peptide - Protein Information

Name AAK1

Synonyms KIAA1048

Function
Regulates clathrin-mediated endocytosis by phosphorylating the AP2M1/mu2 subunit of the adaptor protein complex 2 (AP-2) which ensures high affinity binding of AP-2 to cargo membrane proteins during the initial stages of endocytosis (PubMed:17494869, PubMed:11877457, PubMed:11877461, PubMed:12952931, PubMed:14617351, PubMed:25653444). Isoform 1 and isoform 2 display similar levels of kinase activity towards AP2M1 (PubMed:<a

href="http://www.uniprot.org/citations/17494869" target="_blank">17494869). Preferentially, may phosphorylate substrates on threonine residues (PubMed:11877457, PubMed:18657069). Regulates phosphorylation of other AP-2 subunits as well as AP-2 localization and AP-2-mediated internalization of ligand complexes (PubMed:12952931). Phosphorylates NUMB and regulates its cellular localization, promoting NUMB localization to endosomes (PubMed:18657069). Binds to and stabilizes the activated form of NOTCH1, increases its localization in endosomes and regulates its transcriptional activity (PubMed:21464124).

Cellular Location
Cell membrane {ECO:0000250|UniProtKB:F1MH24}; Peripheral membrane protein {ECO:0000250|UniProtKB:F1MH24}. Membrane, clathrin-coated pit. Presynapse {ECO:0000250|UniProtKB:P0C1X8}. Note=Active when found in clathrin- coated pits at the plasma membrane. In neuronal cells, enriched at presynaptic terminals. In non-neuronal cells, enriched at leading edge of migrating cells. {ECO:0000250|UniProtKB:P0C1X8}

Tissue Location
Detected in brain, heart and liver. Isoform 1 is the predominant isoform in brain.

AAK1 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

AAK1 Antibody (N-term) Blocking Peptide - Images

AAK1 Antibody (N-term) Blocking Peptide - Background

Adaptor-related protein complex 2 (AP-2 complexes) functions during receptor-mediated endocytosis to trigger clathrin assembly, interact with membrane-bound receptors, and recruit encodytic accessory factors. AAK1 is a member of the SNF1 subfamily of Ser/Thr protein kinases. The protein interacts with and phosphorylates a subunit of the AP-2 complex, which promotes binding of AP-2 to sorting signals found in membrane-bound receptors and subsequent receptor endocytosis. Its kinase activity is stimulated by clathrin.

AAK1 Antibody (N-term) Blocking Peptide - References

Henderson,D.M., Mol. Biol. Cell 18 (7), 2698-2706 (2007)Takahashi,T., Cancer Res. 66 (24), 11932-11937 (2006)Schmid,E.M., PLoS Biol. 4 (9), E262 (2006)