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AGK Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP9238b

Specification

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

Primary Accession Q53H12

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

Gene ID 55750

Other Names
Acylglycerol kinase, mitochondrial, hAGK, Multiple substrate lipid kinase, HsMuLK, MuLK, Multi-substrate lipid kinase, AGK, MULK

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP9238b was selected from the C-term region of human AGK. 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.

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

Name AGK {ECO:0000303|PubMed:15939762, ECO:0000312|HGNC:HGNC:21869}

Function
Lipid kinase that can phosphorylate both monoacylglycerol and diacylglycerol to form lysophosphatidic acid (LPA) and phosphatidic acid (PA), respectively (PubMed:15939762). Does not phosphorylate sphingosine (PubMed:15939762). Phosphorylates ceramide (By similarity). Phosphorylates 1,2-dioleoylglycerol more rapidly than 2,3- dioleoylglycerol (By similarity). Independently of its lipid kinase activity, acts as a component of the TIM22 complex (PubMed:28712724, PubMed:28712726). The TIM22 complex mediates the import and insertion of multi-pass transmembrane proteins into the mitochondrial inner membrane by forming a twin-pore translocase that uses the membrane

potential as the external driving force (PubMed:28712724, PubMed:28712726). In the TIM22 complex, required for the import of a subset of metabolite carriers into mitochondria, such as ANT1/SLC25A4 and SLC25A24, while it is not required for the import of TIMM23 (PubMed:28712724). Overexpression increases the formation and secretion of LPA, resulting in transactivation of EGFR and activation of the downstream MAPK signaling pathway, leading to increased cell growth (PubMed:15939762).

Cellular Location
Mitochondrion inner membrane; Peripheral membrane protein. Mitochondrion intermembrane space. Note=Localizes in the mitochondrion intermembrane space, where it associates with the inner membrane (PubMed:28712724). It is unclear whether the N-terminal hydrophobic region forms a transmembrane region or associates with the membrane without crossing it (PubMed:28712724, PubMed:28712726)

Tissue Location
Highly expressed in muscle, heart, kidney and brain.

AGK Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

AGK Antibody (C-term) Blocking Peptide - Images

AGK Antibody (C-term) Blocking Peptide - Background

AGK can phosphorylate both monoacylglycerol and diacylglycerol to form lysophosphatidic acid (LPA) and phosphatidic acid (PA), respectively.

AGK Antibody (C-term) Blocking Peptide - References

Nouh,M.A., et.al, Cancer Sci. 100 (9), 1631-1638 (2009)Epand,R.M., et.al, Biochemistry 46 (49), 14225-14231 (2007)