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

ARK5 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP8066b

Specification

ARK5 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession O60285

ARK5 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 9891

Other Names
NUAK family SNF1-like kinase 1, AMPK-related protein kinase 5, ARK5, Omphalocele kinase 1, NUAK1, ARK5, KIAA0537, OMPHK1

Target/Specificity
The synthetic peptide sequence used to generate the antibody <a >AP8066b was selected from the C-term region of human ARK5 . 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.

ARK5 Antibody (C-term) Blocking Peptide - Protein Information

Name NUAK1

Synonyms ARK5, KIAA0537, OMPHK1

Function
Serine/threonine-protein kinase involved in various processes such as cell adhesion, regulation of cell ploidy and senescence, cell proliferation and tumor progression. Phosphorylates ATM, CASP6, LATS1, PPP1R12A and p53/TP53. Acts as a regulator of cellular senescence and cellular ploidy by mediating phosphorylation of 'Ser-464' of LATS1, thereby controlling its stability. Controls cell adhesion by regulating activity of the myosin protein phosphatase 1 (PP1) complex. Acts by mediating phosphorylation of PPP1R12A subunit of myosin PP1: phosphorylated PPP1R12A then interacts with 14-3-3, leading to reduced dephosphorylation of myosin MLC2 by myosin PP1. May be involved in DNA damage response: phosphorylates p53/TP53 at 'Ser-15' and 'Ser-392' and is recruited to the CDKN1A/WAF1 promoter to participate in transcription activation by p53/TP53. May also act as a tumor malignancy-associated factor by promoting tumor invasion and

metastasis under regulation and phosphorylation by AKT1. Suppresses Fas-induced apoptosis by mediating phosphorylation of CASP6, thereby suppressing the activation of the caspase and the subsequent cleavage of CFLAR. Regulates UV radiation-induced DNA damage response mediated by CDKN1A. In association with STK11, phosphorylates CDKN1A in response to UV radiation and contributes to its degradation which is necessary for optimal DNA repair (PubMed:25329316).

Cellular Location
Nucleus. Cytoplasm

Tissue Location
Expressed at high levels in heart and brain, and at lower levels in skeletal muscle, kidney, ovary, placenta, lung and liver. Highly up-regulated in colorectal cancer cell lines

ARK5 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

ARK5 Antibody (C-term) Blocking Peptide - Images

ARK5 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 STE group (homologs of yeast Sterile 7, 11, 20 kinases) consists of 50 kinases related to the mitogen-activated protein kinase (MAPK) cascade families (Ste7/MAP2K, Ste11/MAP3K, and Ste20/MAP4K). MAP kinase cascades, consisting of a MAPK and one or more upstream regulatory kinases (MAPKKs) have been best characterized in the yeast pheromone response pathway. Pheromones bind to Ste cell surface receptors and activate yeast MAPK pathway.

ARK5 Antibody (C-term) Blocking Peptide - References

Suzuki, A., et al., Mol. Cell. Biol. 24(8):3526-3535 (2004).Suzuki, A., et al., Oncogene 22(40):6177-6182 (2003).Suzuki, A., et al., J. Biol. Chem. 278(1):48-53 (2003).