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PHLPP1 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP7842a

Specification

PHLPP1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession O60346

PHLPP1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 23239

Other Names
PH domain leucine-rich repeat-containing protein phosphatase 1, Pleckstrin homology domain-containing family E member 1, PH domain-containing family E member 1, Suprachiasmatic nucleus circadian oscillatory protein, hSCOP, PHLPP1, KIAA0606, PHLPP, PLEKHE1, SCOP

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7842a was selected from the N-term region of human PHLPP1. 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.

PHLPP1 Antibody (N-term) Blocking Peptide - Protein Information

Name PHLPP1

Synonyms KIAA0606, PHLPP, PLEKHE1, SCOP

Function
Protein phosphatase involved in regulation of Akt and PKC signaling. Mediates dephosphorylation in the C-terminal domain hydrophobic motif of members of the AGC Ser/Thr protein kinase family; specifically acts on 'Ser-473' of AKT2 and AKT3, 'Ser-660' of PRKCB and 'Ser-657' of PRKCA (PubMed:15808505, PubMed:17386267, PubMed:18162466). Isoform 2 seems to have a major role in regulating Akt signaling in hippocampal neurons (By similarity). Akt regulates the balance between cell survival and apoptosis through a cascade that

primarily alters the function of transcription factors that regulate pro- and antiapoptotic genes. Dephosphorylation of 'Ser-473' of Akt triggers apoptosis and suppression of tumor growth. Dephosphorylation of PRKCA and PRKCB leads to their destabilization and degradation (PubMed:18162466). Dephosphorylates STK4 on 'Thr-387' leading to STK4 activation and apoptosis (PubMed:20513427). Dephosphorylates RPS6KB1 and is involved in regulation of cap-dependent translation (PubMed:21986499). Inhibits cancer cell proliferation and may act as a tumor suppressor (PubMed:19079341). Dephosphorylates RAF1 inhibiting its kinase activity (PubMed:24530606). May act as a negative regulator of K-Ras signaling in membrane rafts (By similarity). Involved in the hippocampus- dependent long-term memory formation (By similarity). Involved in circadian control by regulating the consolidation of circadian periodicity after resetting (By similarity). Involved in development and function of regulatory T-cells (By similarity).

Cellular Location
Cytoplasm. Membrane; Peripheral membrane protein. Nucleus. Note=In colorectal cancer tissue, expression is concentrated at the lateral membrane of epithelial cells

Tissue Location
In colorectal cancer tissue, expression is highest in the surface epithelium of normal colonic mucosa adjacent to the cancer tissue but is largely excluded from the crypt bases. Expression is lost or significantly decreased in 78% of tested tumors (at protein level). Ubiquitously expressed in non-cancerous tissues

PHLPP1 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

PHLPP1 Antibody (N-term) Blocking Peptide - Images

PHLPP1 Antibody (N-term) Blocking Peptide - Background

PHLPP1 is a protein phosphatase that specifically mediates dephosphorylation of 'Ser-473' of AKT1, a protein that regulates the balance between cell survival and apoptosis through a cascade that primarily alters the function of transcription factors that regulate pro- and antiapoptotic genes.

PHLPP1 Antibody (N-term) Blocking Peptide - References

Gao,T., J. Biol. Chem. 283 (10), 6300-6311 (2008)Brognard,J., Mol. Cell 25 (6), 917-931 (2007)Gao,T., Mol. Cell 18 (1), 13-24 (2005)