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SCOP / PHLPP Antibody (N-Terminus)
Rabbit Polyclonal Antibody
Catalog # ALS15654

Specification

SCOP / PHLPP Antibody (N-Terminus) - Product Information

Application	**ICC, IF, WB**
Primary Accession	O60346
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**185kDa KDa**

SCOP / PHLPP Antibody (N-Terminus) - Additional Information

Gene ID 23239

Other Names
PH domain leucine-rich repeat-containing protein phosphatase 1, 3.1.3.16, 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
Human PHLPP1 / PHLPP. At least four isoforms are known to exist; this antibody will only detect the largest isoform. PHLPP1 antibody is predicted to not cross react with PHLPP2.

Reconstitution & Storage
Long term: -20°C; Short term: +4°C. Avoid repeat freeze-thaw cycles.

Precautions
SCOP / PHLPP Antibody (N-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

SCOP / PHLPP Antibody (N-Terminus) - 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

SCOP / PHLPP Antibody (N-Terminus) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SCOP / PHLPP Antibody (N-Terminus) - Images

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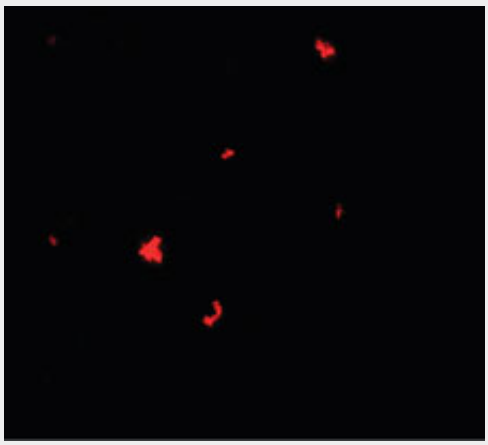
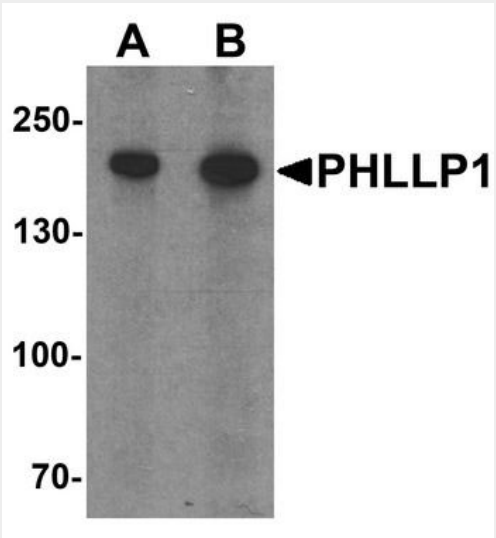
Immunocytochemistry of PHLPP1 in SW480 cells with PHLPP1 antibody at 2.5 ug/ml.



Immunofluorescence of PHLPP1 in SW480 cells with PHLPP1 antibody at 5 ug/ml.



Western blot analysis of PHLPP1 in SW480 cell lysate with PHLPP1 antibody at (A) 1 and (B) 2 ug/ml.

SCOP / PHLPP Antibody (N-Terminus) - Background

Protein phosphatase that mediates dephosphorylation of 'Ser-473' of AKT1, 'Ser-660' of PRKCB isoform beta-II and 'Ser- 657' of PRKCA. AKT1 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 AKT1 triggers apoptosis and suppression of tumor growth. Controls the phosphorylation of AKT2 and AKT3 more efficiently than that of AKT1. Dephosphorylation of PRKCA and PRKCB leads to their destabilization and degradation. Inhibits cancer cell proliferation and may act as a tumor suppressor. May act as a negative regulator of K-Ras signaling in membrane rafts.

SCOP / PHLPP Antibody (N-Terminus) - References

Nusbaum C.,et al.Nature 437:551-555(2005).
Nagase T.,et al.DNA Res. 5:31-39(1998).
Nakajima D.,et al.DNA Res. 9:99-106(2002).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Gao T.,et al.Mol. Cell 18:13-24(2005).