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PLK4/STK18 Rabbit pAb

Catalog # AP97442

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	O00444
Other Accession	O00444
Reactivity	Human
Predicted	Rat, Mouse, Rabbit, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	108972
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PLK4/STK18
Epitope Specificity	881-970/970
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. CDC5/Polo subfamily.
SUBUNIT	Homodimer. Interacts with CEP152 (via N-terminus).
Post-translational modifications	Ubiquitinated; leading to its degradation by the proteasome. Tyrosine-phosphorylated by TEC.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Serine/threonine-protein kinase that plays a central role in centriole duplication. Able to trigger procentriole formation on the surface of the parental centriole cylinder, leading to the recruitment of centriole biogenesis proteins such as SASS6, CENPJ/CPAP, CP110, CEP135 and gamma-tubulin. When overexpressed, it is able to induce centrosome amplification through the simultaneous generation of multiple procentrioles adjoining each parental centriole during S phase. Its central role in centriole replication suggests a posible role in tumorigenesis, centrosome aberrations being frequently observed in tumors. Also involved in trophoblast differentiation by phosphorylating HAND1, leading to disrupt the interaction between HAND1 and MDFIC and activate HAND1. Phosphorylates CDC25C and CHEK2/CHK2.

Additional Information

Gene ID	10733
Other Names	MCCRP2; SAK; STK18; 1700028H20; PLK4_HUMAN; PLK4; Polo-like kinase 4 (PLK-4); Serine/threonine-protein kinase 18; Serine/threonine-protein kinase Sak; 2.7.11.21; PLK4_MOUSE; PLK4_RAT; polo like kinase 4; serine/threonine kinase 18; polo-like kinase 4 (Drosophila); polo-like kinase 4

Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	PLK4 (HGNC:11397)
Synonyms	SAK, STK18
Function	Serine/threonine-protein kinase that plays a central role in centriole duplication. Able to trigger procentriole formation on the surface of the parental centriole cylinder, leading to the recruitment of centriole biogenesis proteins such as SASS6, CPAP, CCP110, CEP135 and gamma-tubulin. When overexpressed, it is able to induce centrosome amplification through the simultaneous generation of multiple procentrioles adjoining each parental centriole during S phase. Phosphorylates 'Ser-151' of FBXW5 during the G1/S transition, leading to inhibit FBXW5 ability to ubiquitinate SASS6. Its central role in centriole replication suggests a possible role in tumorigenesis, centrosome aberrations being frequently observed in tumors. Also involved in deuterosome-mediated centriole amplification in multiciliated that can generate more than 100 centrioles. Also involved in trophoblast differentiation by phosphorylating HAND1, leading to disrupt the interaction between HAND1 and MDFIC and activate HAND1. Phosphorylates CDC25C and CHEK2. Required for the recruitment of STIL to the centriole and for STIL-mediated centriole amplification (PubMed:22020124). Phosphorylates CEP131 at 'Ser-78' and PCM1 at 'Ser- 372' which is essential for proper organization and integrity of centriolar satellites (PubMed:30804208).
Cellular Location	Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole. Nucleus, nucleolus {ECO:0000250|UniProtKB:Q64702}. Cleavage furrow {ECO:0000250|UniProtKB:Q64702}. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=Component of the deuterosome, a structure that promotes de novo centriole amplification in multiciliated cells that can generate more than 100 centrioles Associates with centrioles throughout the cell cycle. According to PubMed:16244668, it is not present at cleavage furrows

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