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PLK4 Antibody (C-Term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21686b

Product Information

Application	WB, E
Primary Accession	O00444
Reactivity	Human
Predicted	Bovine, Canine
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB53118
Calculated MW	108972

Additional Information

Gene ID	10733
Other Names	Serine/threonine-protein kinase PLK4, Polo-like kinase 4, PLK-4, Serine/threonine-protein kinase 18, Serine/threonine-protein kinase Sak, PLK4, SAK, STK18
Target/Specificity	This PLK4 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 724-758 amino acids from the region of human PLK4.
Dilution	WB~~1:2000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PLK4 Antibody (C-Term) is for research use only and not for use in diagnostic or therapeutic procedures.

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

Background

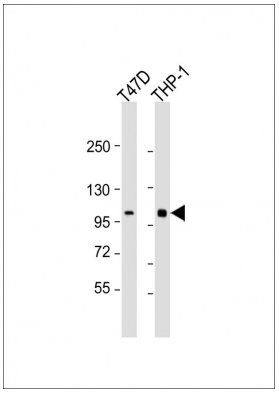
Serine/threonine-protein kinase that plays a central role in centriole duplication. Able to trigger procentriole formation on the surface of the parental centriole cylinder, leading to the recruitment of centriole biogenesis proteins such as SASS6, CENPJ/CPAP, CCP110, CEP135 and gamma-tubulin. When overexpressed, 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.

References

Karn T.,et al.Oncol. Rep. 4:505-510(1997).
Yamashita Y.,et al.J. Biol. Chem. 276:39012-39020(2001).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
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Lehtola L.,et al.Int. J. Cancer 50:598-603(1992).

Images

All lanes : Anti-PLK4 Antibody (C-Term) at 1:2000 dilution Lane 1: T47D whole cell lysate Lane 2: THP-1 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000



dilution. Predicted band size : 109 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.