

polo-like kinase 3 (aa320-333) Antibody (internal region)
Peptide-affinity purified goat antibody
Catalog # AF3960a

Specification

polo-like kinase 3 (aa320-333) Antibody (internal region) - Product Information

Application	WB, IHC
Primary Accession	Q9H4B4
Other Accession	NP_004064.2 , 1263
Reactivity	Human
Host	Goat
Clonality	Polyclonal
Concentration	0.5 mg/ml
Isotype	IgG
Calculated MW	71629

polo-like kinase 3 (aa320-333) Antibody (internal region) - Additional Information

Gene ID 1263

Other Names

Serine/threonine-protein kinase PLK3, 2.7.11.21, Cytokine-inducible serine/threonine-protein kinase, FGF-inducible kinase, Polo-like kinase 3, PLK-3, Proliferation-related kinase, PLK3, CNK, FNK, PRK

Format

0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

polo-like kinase 3 (aa320-333) Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

polo-like kinase 3 (aa320-333) Antibody (internal region) - Protein Information

Name PLK3

Synonyms CNK, FNK, PRK

Function

Serine/threonine-protein kinase involved in cell cycle regulation, response to stress and Golgi disassembly. Polo-like kinases act by binding and phosphorylating proteins that are already phosphorylated on a specific motif recognized by the POLO box domains. Phosphorylates ATF2, BCL2L1, CDC25A, CDC25C, CHEK2, HIF1A, JUN, p53/TP53, p73/TP73, PTEN, TOP2A and VRK1.

Involved in cell cycle regulation: required for entry into S phase and cytokinesis. Phosphorylates BCL2L1, leading to regulate the G2 checkpoint and progression to cytokinesis during mitosis. Plays a key role in response to stress: rapidly activated upon stress stimulation, such as ionizing radiation, reactive oxygen species (ROS), hyperosmotic stress, UV irradiation and hypoxia. Involved in DNA damage response and G1/S transition checkpoint by phosphorylating CDC25A, p53/TP53 and p73/TP73. Phosphorylates p53/TP53 in response to reactive oxygen species (ROS), thereby promoting p53/TP53-mediated apoptosis. Phosphorylates CHEK2 in response to DNA damage, promoting the G2/M transition checkpoint. Phosphorylates the transcription factor p73/TP73 in response to DNA damage, leading to inhibit p73/TP73-mediated transcriptional activation and pro-apoptotic functions. Phosphorylates HIF1A and JUN in response to hypoxia. Phosphorylates ATF2 following hyperosmotic stress in corneal epithelium. Also involved in Golgi disassembly during the cell cycle: part of a MEK1/MAP2K1-dependent pathway that induces Golgi fragmentation during mitosis by mediating phosphorylation of VRK1. May participate in endomitotic cell cycle, a form of mitosis in which both karyokinesis and cytokinesis are interrupted and is a hallmark of megakaryocyte differentiation, via its interaction with CIB1.

Cellular Location

Cytoplasm. Nucleus. Nucleus, nucleolus. Golgi apparatus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=Translocates to the nucleus upon cisplatin treatment. Localizes to the Golgi apparatus during interphase. According to a report, PLK3 localizes only in the nucleolus and not in the centrosome, or in any other location in the cytoplasm (PubMed:17264206). The discrepancies in results may be explained by the PLK3 antibody specificity, by cell line-specific expression or post-translational modifications.

Tissue Location

Transcripts are highly detected in placenta, lung, followed by skeletal muscle, heart, pancreas, ovaries and kidney and weakly detected in liver and brain. May have a short half-life. In cells of hematopoietic origin, strongly and exclusively detected in terminally differentiated macrophages. Transcript expression appears to be down-regulated in primary lung tumor.

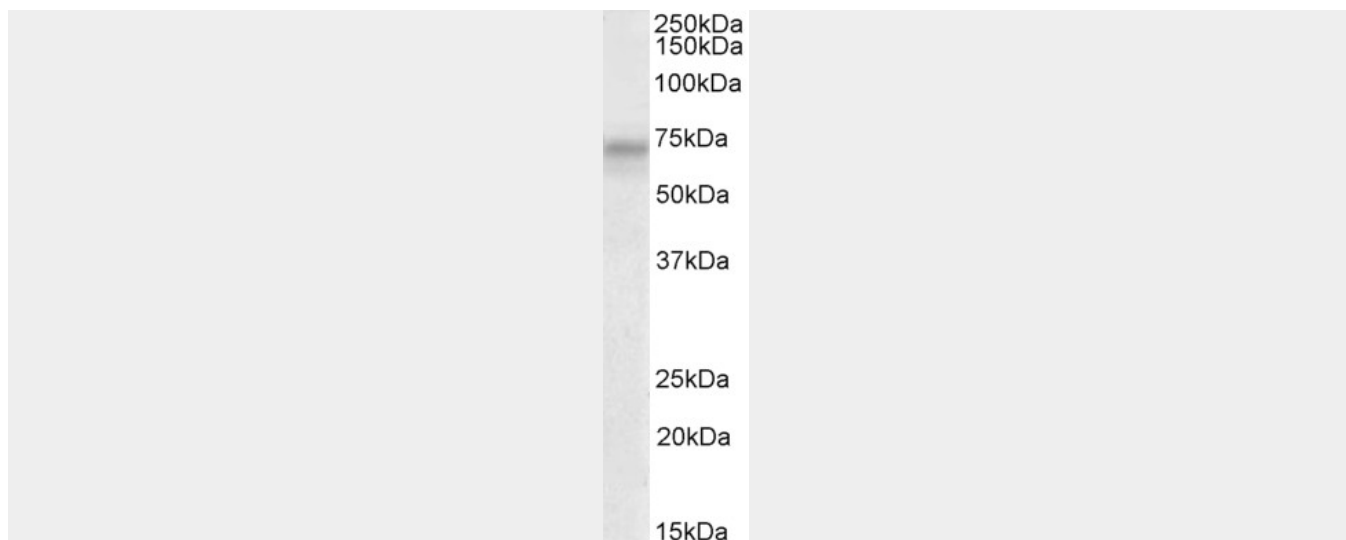
polo-like kinase 3 (aa320-333) Antibody (internal region) - Protocols

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

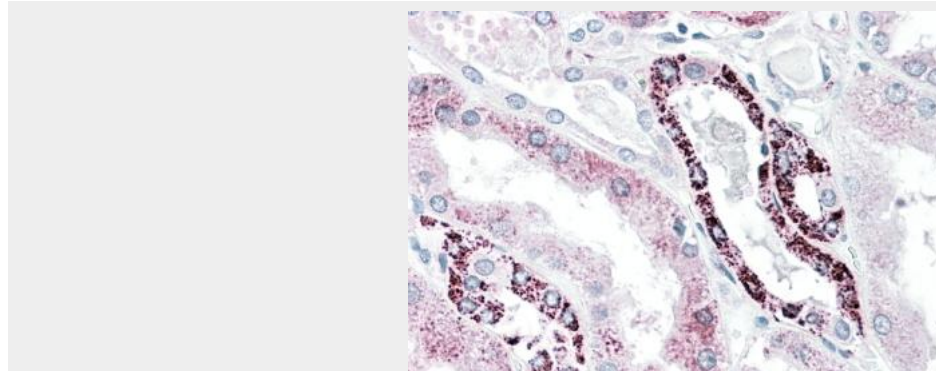
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

polo-like kinase 3 (aa320-333) Antibody (internal region) - Images





AF3960a (2 µg/ml) staining of HeLa lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



AF3960a (5 µg/ml) staining of paraffin embedded Human Kidney. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

polo-like kinase 3 (aa320-333) Antibody (internal region) - References

Bcl-xL phosphorylation at Ser49 by polo kinase 3 during cell cycle progression and checkpoints.
Wang J, Beauchemin M, Bertrand R. Cell Signal. 2011 Dec;23(12):2030-8. PMID: 21840391