

AIK Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7900a**Specification**

AIK Antibody (N-term) - Product Information

Application	IHC-P, WB,E
Primary Accession	O14965
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	45823
Antigen Region	90-120

AIK Antibody (N-term) - Additional Information**Gene ID** 6790**Other Names**

Aurora kinase A, Aurora 2, Aurora/IPL1-related kinase 1, ARK-1, Aurora-related kinase 1, hARK1, Breast tumor-amplified kinase, Serine/threonine-protein kinase 15, Serine/threonine-protein kinase 6, Serine/threonine-protein kinase aurora-A, AURKA

Target/Specificity

This AIK antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 90-120 amino acids from the N-terminal region of human AIK.

Dilution

IHC-P~~1:50~100

WB~~1:1000

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

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

AIK Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

AIK Antibody (N-term) - Protein Information**Name** AURKA ([HGNC:11393](#))

Function Mitotic serine/threonine kinase that contributes to the regulation of cell cycle progression (PubMed:[11039908](#), PubMed:[12390251](#), PubMed:[17125279](#), PubMed:[17360485](#), PubMed:[18615013](#), PubMed:[26246606](#)). Associates with the centrosome and the spindle microtubules during mitosis and plays a critical role in various mitotic events including the establishment of mitotic spindle, centrosome duplication, centrosome separation as well as maturation, chromosomal alignment, spindle assembly checkpoint, and cytokinesis (PubMed:[14523000](#), PubMed:[26246606](#)). Required for normal spindle positioning during mitosis and for the localization of NUMA1 and DCTN1 to the cell cortex during metaphase (PubMed:[27335426](#)). Required for initial activation of CDK1 at centrosomes (PubMed:[13678582](#), PubMed:[15128871](#)). Phosphorylates numerous target proteins, including ARHGEF2, BORA, BRCA1, CDC25B, DLGP5, HDAC6, KIF2A, LATS2, NDEL1, PARD3, PPP1R2, PLK1, RASSF1, TACC3, p53/TP53 and TPX2 (PubMed:[11551964](#), PubMed:[14702041](#), PubMed:[15128871](#), PubMed:[15147269](#), PubMed:[15987997](#), PubMed:[17604723](#), PubMed:[18056443](#), PubMed:[18615013](#)). Phosphorylates MCRS1 which is required for MCRS1- mediated kinetochore fiber assembly and mitotic progression (PubMed:[27192185](#)). Regulates KIF2A tubulin depolymerase activity (PubMed:[19351716](#)). Important for microtubule formation and/or stabilization (PubMed:[18056443](#)). Required for normal axon formation (PubMed:[19812038](#)). Plays a role in microtubule remodeling during neurite extension (PubMed:[19668197](#)). Also acts as a key regulatory component of the p53/TP53 pathway, and particularly the checkpoint- response pathways critical for oncogenic transformation of cells, by phosphorylating and destabilizing p53/TP53 (PubMed:[14702041](#)). Phosphorylates its own inhibitors, the protein phosphatase type 1 (PP1) isoforms, to inhibit their activity (PubMed:[11551964](#)). Inhibits cilia outgrowth (By similarity). Required for cilia disassembly via phosphorylation of HDAC6 and subsequent deacetylation of alpha-tubulin (PubMed:[17604723](#), PubMed:[20643351](#)). Regulates protein levels of the anti-apoptosis protein BIRC5 by suppressing the expression of the SCF(FBXL7) E3 ubiquitin-protein ligase substrate adapter FBXL7 through the phosphorylation of the transcription factor FOXP1 (PubMed:[28218735](#)).

Cellular Location

Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle pole. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole {ECO:0000250|UniProtKB:P97477}. Cell projection, neuron projection {ECO:0000250|UniProtKB:P97477}. Cell projection, cilium. Cytoplasm, cytoskeleton, cilium basal body. Basolateral cell membrane {ECO:0000250|UniProtKB:F1PNY0}. Note=Detected at the neurite hillock in developing neurons (By similarity). Localizes at the centrosome in mitotic cells from early prophase until telophase, but also localizes to the spindle pole MTs from prophase to anaphase (PubMed:17229885, PubMed:21225229, PubMed:9606188). Colocalized with SIRT2 at centrosome (PubMed:22014574). Moves to the midbody during both telophase and cytokinesis (PubMed:17726514). Associates with both the pericentriolar material (PCM) and centrioles (PubMed:22014574). The localization to the spindle poles is regulated by AAAS (PubMed:26246606) {ECO:0000250|UniProtKB:P97477, ECO:0000269|PubMed:17229885, ECO:0000269|PubMed:17726514, ECO:0000269|PubMed:21225229, ECO:0000269|PubMed:22014574, ECO:0000269|PubMed:26246606, ECO:0000269|PubMed:9606188}

Tissue Location

Highly expressed in testis and weakly in skeletal muscle, thymus and spleen. Also highly expressed in colon, ovarian, prostate, neuroblastoma, breast and cervical cancer cell lines

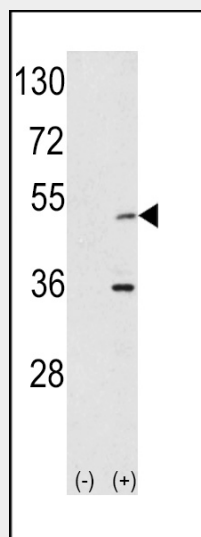
AIK Antibody (N-term) - Protocols

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

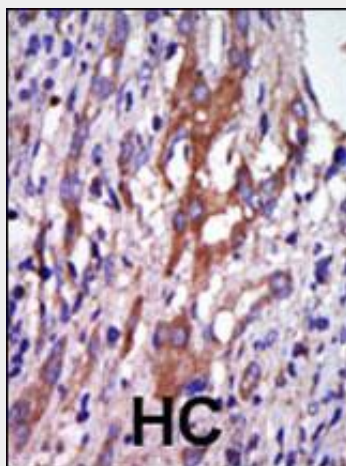
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

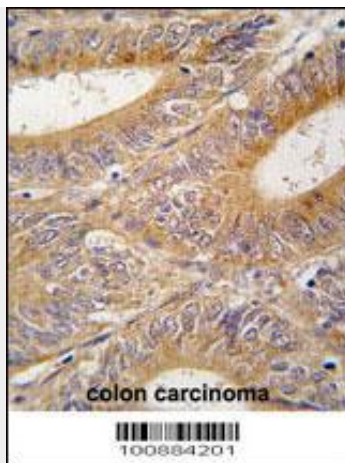
AIK Antibody (N-term) - Images



Western blot analysis of AIK (arrow) using rabbit polyclonal hAIK-H105 (Cat. #AP7900a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the AIK gene (Lane 2) (Origene Technologies).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Formalin-fixed and paraffin-embedded human colon carcinoma tissue reacted with AIK antibody (N-term) (Cat.#AP7900a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

AIK Antibody (N-term) - Background

Aurora A (AIK) plays a role in cell cycle regulation during anaphase and/or telophase, in relation to the function of the centrosome/spindle pole region during chromosome segregation. Aurora A plays a key role during tumor development and progression and is overexpressed in many human cancers including breast, ovarian and colorectal. Aurora A is viewed as a potential target for anticancer drug treatment.

AIK Antibody (N-term) - References

Kimura, M., et al., J. Biol. Chem. 272(21):13766-13771 (1997).