

Aurora A Antibody

Rabbit mAb Catalog # AP90525

Product Information

Application Primary Accession	WB, IF, FC, ICC 014965
Clonality	Monoclonal
Other Names	AIK, ARK1, AYK1, Aurora-A, Aurora-related kinase 1, BTAK, IAK1, Ipl1- and aurora-related kinase 1, STK15, STK6, Serine/threonine kinase 15
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	45823

Additional Information

Dilution Purification Immunogen	WB 1:500~1:2000 ICC/IF 1:50~1:200 FC 1: 200 Affinity-chromatography A synthesized peptide derived from human Aurora A
Description	Mitotic serine/threonine kinases that contributes to the regulation of cell cycle progression. 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.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	AURKA (<u>HGNC:11393</u>)
Function	Mitotic serine/threonine kinase that contributes to the regulation of cell cycle progression (PubMed: <u>11039908</u> , PubMed: <u>12390251</u> , PubMed: <u>17125279</u> , PubMed: <u>17360485</u> , PubMed: <u>18615013</u> , PubMed: <u>26246606</u>). 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: <u>14523000</u> , PubMed: <u>26246606</u>). Required for normal spindle positioning during mitosis and for the localization of NUMA1 and DCTN1 to the cell cortex during metaphase (PubMed: <u>13678582</u> , PubMed: <u>15128271</u>). Phosphoredates pumperous target proteins including
	Publiced. <u>15126671</u>). 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:22014574, ECO:0000269 PubMed:26246606, ECO:0000269 PubMed:22014574, ECO:0000269 PubMed:26246606, ECO:0000269 PubMed:22014574, ECO:0000269 PubMed:26246606,
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

Images

Western blot analysis of Aurora A expression in HepG2 cell lysate.



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