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Aurora-A Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7002c

Specification

Aurora-A Antibody (C-term) - Product Information

Application	**IF, WB, FC,E**
Primary Accession	O14965
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**364-392**

Aurora-A Antibody (C-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 Aurora-A antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 364-392 amino acids from the C-terminal region of human Aurora-A.

Dilution
IF~~1:10~50
WB~~1:1000
FC~~1:10~50

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
Aurora-A Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Aurora-A Antibody (C-term) - Protein Information

Name AURKA (HGNC:11393)

Function Mitotic serine/threonine kinase that contributes to the regulation of cell cycle progression (PubMed:26246606, PubMed:12390251, PubMed:18615013, PubMed:11039908, PubMed:17125279, PubMed:17360485). 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:26246606, PubMed:14523000). 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:18056443, PubMed:15128871, PubMed:14702041, PubMed:11551964, PubMed:15147269, PubMed:15987997, PubMed:17604723, PubMed:18615013). 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:9606188, PubMed:17229885, PubMed:21225229). 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

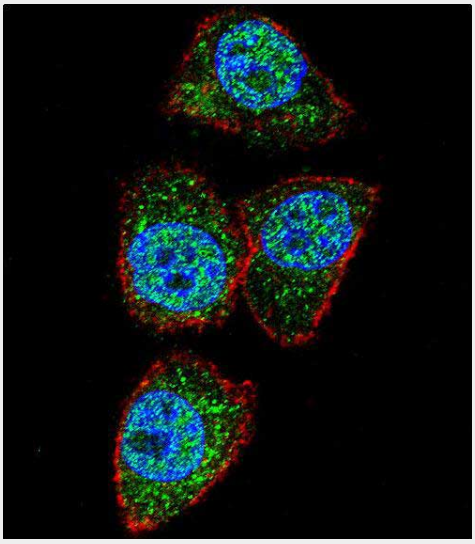
Aurora-A Antibody (C-term) - Protocols

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

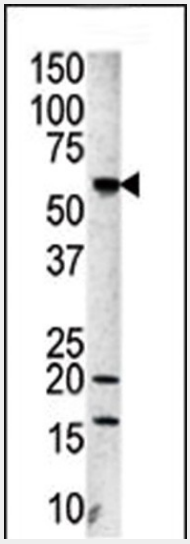
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry

- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Aurora-A Antibody (C-term) - Images

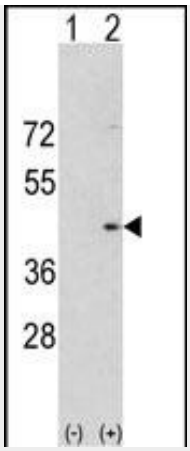


Confocal immunofluorescent analysis of Aurora-A Antibody (C-term)(Cat#AP7002c) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).DAPI was used to stain the cell nuclear (blue).

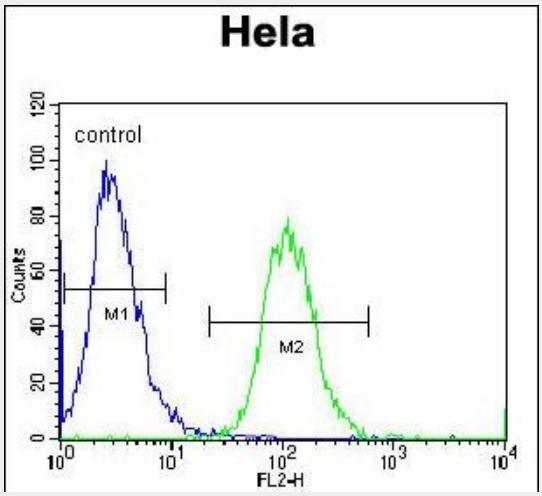


Western blot analysis of anti-Aurora-A Pab (Cat. #AP7002c) in A2058 cell line lysate.Aurora-A(arrow) was detected using the purified Pab.

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Western blot analysis of Aurora-A (arrow) using rabbit polyclonal Aurora-A Antibody (C-term) (Cat. #AP7002c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the Aurora-A gene (Lane 2) (Origene Technologies).



Aurora-A Antibody (C-term) (Cat. #AP7002c) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Aurora-A Antibody (C-term) - Background

Chromosomal segregation during mitosis as well as meiosis is regulated by kinases and phosphatases. The Aurora kinases, members of the Ser/Thr protein kinase family, associate with microtubules during chromosome movement and segregation. Auroria kinase A may play 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. It may be involved in microtubule formation and/or stabilization. This protein has also been postulated to play a key role during tumor development and progression. Aurora kinase A localizes on centrosomes in interphase cells and at each spindle pole in mitosis. It is highly expressed in testis, weakly in skeletal muscle, thymus and spleen, and also highly expressed in colon, ovarian, prostate, neuroblastoma, breast and cervical cancer cell lines. Expression is cell-cycle regulated, low in G1/S, accumulates during G2/M, and decreases rapidly afterward. Defects in Aurora kinase A are responsible for numerical centrosome aberrations including aneuploidy.

Aurora-A Antibody (C-term) - References

Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002). Tanaka, M., et al., J. Biol. Chem. 277(12):10719-10726 (2002). Nigg, E.A., Nat. Rev. Mol. Cell Biol. 2(1):21-32 (2001).

Deloukas, P., et al., Nature 414(6866):865-871 (2001). Shindo, M., et al., Biochem. Biophys. Res. Commun. 244(1):285-292 (1998).

Aurora-A Antibody (C-term) - Citations

- The FOXM1 transcriptional factor promotes the proliferation of leukemia cells through modulation of cell cycle progression in acute myeloid leukemia.
- Cloning and characterization of a novel human Aurora C splicing variant.