10320 Camino Santa Fe, Suite G
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Anti-Aurora A Antibody

Catalog # ABO11092

Specification

Anti-Aurora A Antibody - Product Information

Application	**WB**
Primary Accession	P97477
Host	**Rabbit**
Reactivity	**Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Aurora kinase A(AURKA) detection. Tested with WB in Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Aurora A Antibody - Additional Information

Gene ID 20878

Other Names
Aurora kinase A, 2.7.11.1, Aurora 2, Aurora family kinase 1, Aurora/IPL1-related kinase 1, ARK-1, Aurora-related kinase 1, Ipl1- and aurora-related kinase 1, Serine/threonine-protein kinase 6, Serine/threonine-protein kinase Ayk1, Serine/threonine-protein kinase aurora-A, Aurka

Calculated MW
44772 MW KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Mouse, Rat

Subcellular Localization
Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle pole. Localizes on centrosomes in interphase cells and at each spindle pole in mitosis. Associates with both the pericentriolar material (PCM) and centrioles. Colocalized with SIRT2 at centrosome (By similarity). Detected at the neurite hillock in developing neurons. .

Tissue Specificity
Detected in embryonic neurons in dorsal root ganglia and brain cortex (at protein level). Highly expressed in testis, in about one third of the seminiferous tubules. Expression is restricted to specific spermatocytes nearing completion of prophase, with levels falling off on transition to elongated spermatids. Highly expressed in the ovary, expression in the oocyte starts around the transition to large growing follicle. Abundant expression is seen in the proliferating granulosa and thecal cells of the growing follicle, and in the young corpus luteum. Very weakly expressed in spleen and intestine. .

Protein Name

Aurora kinase A

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence in the middle region of mouse Aurora A(109-125aa QKTEDTKKRQWTLEDFD), different from the related rat sequence by one amino acid.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with otherproteins

Storage **At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Sequence Similarities
Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. Aurora subfamily.

Anti-Aurora A Antibody - Protein Information

Name Aurka

Function
Mitotic serine/threonine kinase that contributes to the regulation of cell cycle progression (By similarity). 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:19075002, PubMed:9245792). Required for normal spindle positioning during mitosis and for the localization of NUMA1 and DCTN1 to the cell cortex during metaphase (By similarity). Required for initial activation of CDK1 at centrosomes (By similarity). Phosphorylates numerous target proteins, including ARHGEF2, BORA, BRCA1, CDC25B, DLGP5, HDAC6, KIF2A, LATS2, NDEL1, PARD3, PPP1R2, PLK1, RASSF1, TACC3, p53/TP53 and TPX2 (By similarity). Phosphorylates MCRS1 which is required for MCRS1-mediated kinetochore fiber assembly and mitotic progression (By similarity). Regulates KIF2A tubulin depolymerase activity (By similarity). Required for normal axon formation (By similarity). Plays a role in microtubule remodeling during neurite extension (PubMed:19668197). Important for microtubule formation and/or stabilization (By similarity). 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 (By similarity). Phosphorylates its own inhibitors, the protein phosphatase type 1 (PP1) isoforms, to inhibit their activity (By similarity). Inhibits cilia outgrowth (By similarity). Required for cilia disassembly via phosphorylation of HDAC6 and subsequent deacetylation of alpha-tubulin (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 (By similarity).

Cellular Location
Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle pole. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole. Cell projection, neuron projection. Cell projection, cilium {ECO:0000250|UniProtKB:O14965}. Cytoplasm, cytoskeleton, cilium basal body. Basolateral cell membrane {ECO:0000250|UniProtKB:F1PNY0}. Note=Localizes on centrosomes in interphase cells and at each spindle pole in mitosis (PubMed:9245792) Associates with both the pericentriolar material (PCM) and centrioles (By similarity). Colocalized with SIRT2 at centrosome (By similarity) Detected at the neurite hillock in developing neurons (PubMed:19668197). The localization to the spindle poles is regulated by AAAS (By similarity). {ECO:0000250|UniProtKB:O14965, ECO:0000269|PubMed:19668197, ECO:0000269|PubMed:9245792}

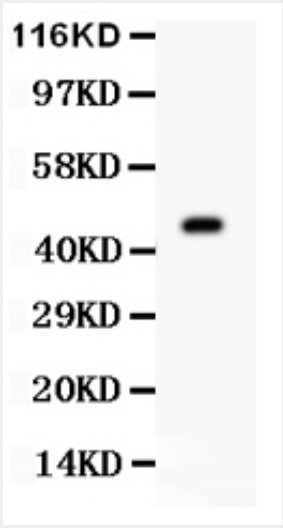
Tissue Location
Detected in embryonic neurons in dorsal root ganglia and brain cortex (at protein level). Highly expressed in testis, in about one third of the seminiferous tubules. Expression is restricted to specific spermatocytes nearing completion of prophase, with levels falling off on transition to elongated spermatids. Highly expressed in the ovary, expression in the oocyte starts around the transition to large growing follicle. Abundant expression is seen in the proliferating granulosa and thecal cells of the growing follicle, and in the young corpus luteum. Very weakly expressed in spleen and intestine.

Anti-Aurora A Antibody - 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

Anti-Aurora A Antibody - Images



Anti- AURKA antibody, ABO11092, Western blottingAll lanes: Anti AURKA (ABO11092) at

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0.5ug/mlWB: Mouse Ovary Tissue Lysate at 50ugPredicted bind size: 46KDObserved bind size: 46KD

Anti-Aurora A Antibody - Background

AURKA(aurora kinase A), also called ARK1, AurA, AIK , AURORA2 ,BTAK, PPP1R47, STK7, STK15,STK6, is a mitotic centrosomal protein kinase. The main role of AURKA in tumor development is in controlling chromosome segregation during mitosis. Aurora A is a member of a family of mitotic serine/threonine kinases. Cell cycle and Northern blot analyses showed that peak expression of AURKA occurs during the G2/M phase and then decreases. By fluorescence in situ hybridization, AURKA gene is represented by 2 signals in chromosome bands 20q13.2-q13.3 and 1q41-q42. The AURKA gene is overexpressed in many human cancers. Ectopic overexpression of Aurora kinase A in mammalian cells induces centrosome amplification, chromosome instability, and oncogenic transformation, a phenotype characteristic of loss-of-function mutations of p53. Depletion of Ajuba prevented activation of AURKA at centrosomes in late G2 phase and inhibited mitotic entry. Activation of AURKA was independently sufficient to induce rapid ciliary resorption, and AURKA acted in this process through phosphorylation of HDAC6, leading to HDAC6-dependent tubulin deacetylation and destabilization of the ciliary axoneme. Small molecule inhibitors of AURKA and HDAC6 reduced regulated disassembly of cilia.