10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

AURKA Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1512a

Specification

AURKA Antibody - Product Information

Application	**E, WB, IF, FC**
Primary Accession	O14965
Reactivity	**Human, Rat, Monkey**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**48kDa KDa**

Description
Aurora A 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.Tissue specificity: 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.

Immunogen
Purified recombinant fragment of human AURKA expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

AURKA Antibody - Additional Information

Gene ID 6790

Other Names
Aurora kinase A, 2.7.11.1, 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

Dilution
E~~1/10000
WB~~1/500 - 1/2000
IF~~1/200 - 1/1000
FC~~1/200 - 1/400

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
AURKA Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

AURKA Antibody - 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).

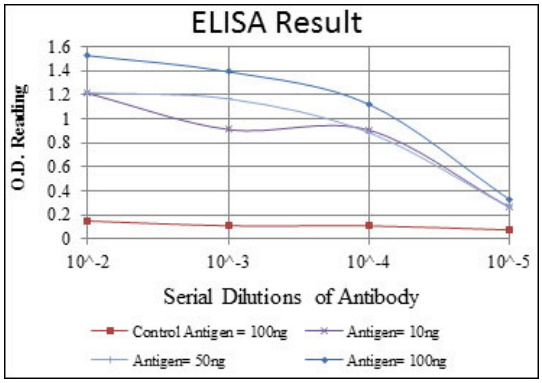
Cellular Location
Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle pole. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole {ECO:0000250|UniProtKB:P97477}. Cell projection, neuron projection {ECO:0000250|UniProtKB:P97477}. 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

AURKA 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



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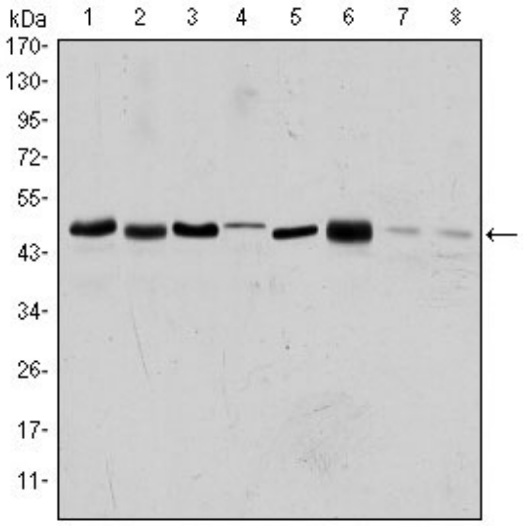


Figure 1: Western blot analysis using AURKA mouse mAb against HEK293 (1), Sw620 (2), MCF-7 (3), Jurkat (4), Hela (5), HepG2 (6), Cos7 (7) and PC-12 (8) cell lysate.

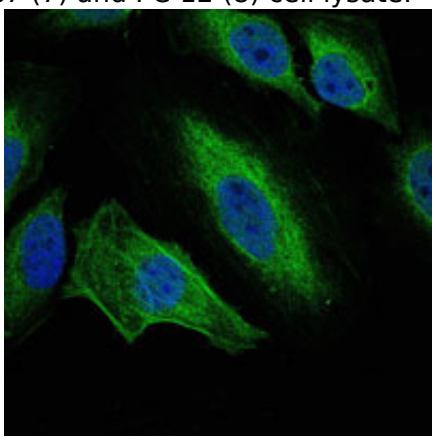


Figure 2: Immunofluorescence analysis of Hela cells using AURKA mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye.

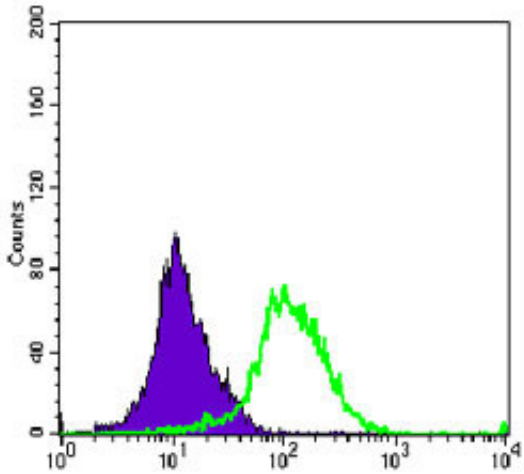


Figure 3: Flow cytometric analysis of K562 cells using AURKA mouse mAb (green) and negative control (purple).

AURKA Antibody - References

1. Cell Cycle. 2008 Nov 15;7(22):3525-33. 2. Oncogene. 2008 Nov 20;27(51):6539-49.

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