

AURKA
Purified Mouse Monoclonal Antibody
Catalog # AO2567a

Specification

AURKA - Product Information

Application	E, WB, ICC, IHC
Primary Accession	O14965
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG2b
Calculated MW	45.8kDa KDa

Immunogen

Purified recombinant fragment of human AURKA (AA: 268-404) expressed in E. Coli.

Formulation

Purified antibody in PBS with 0.05% sodium azide

AURKA - Additional Information

Gene ID 6790

Other Names

AIK; ARK1; AURA; BTAK; STK6; STK7; STK15; PPP1R47

Dilution

E~~ 1/10000
WB~~ 1/500 - 1/2000
ICC~~ 1/200 - 1/1000
IHC~~ 1/200 - 1/1000

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

AURKA - 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). 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

AURKA - 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](#)

AURKA - Images

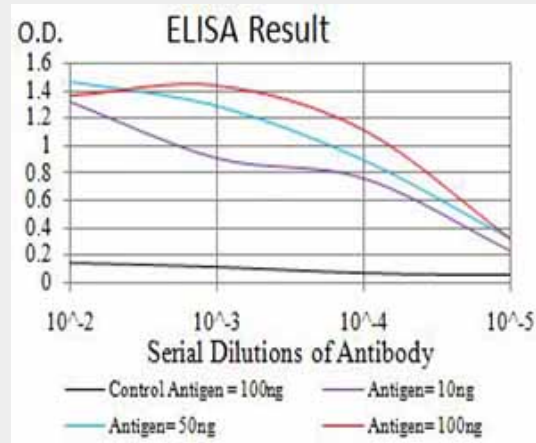


Figure 1: Black line: Control Antigen (100 ng); Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line: Antigen (100 ng)

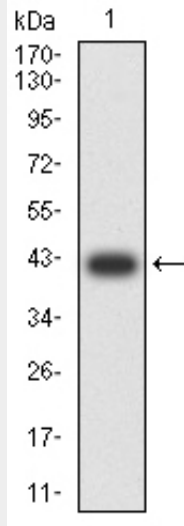


Figure 2: Western blot analysis using AURKA mAb against human AURKA (AA: 268-404) recombinant protein. (Expected MW is 41.5 kDa)

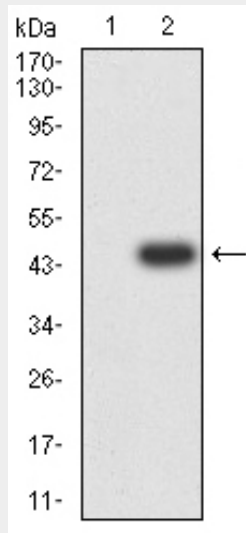


Figure 3: Western blot analysis using AURKA mAb against HEK293 (1) and AURKA (AA: 268-404)-hlgGfC transfected HEK293 (2) cell lysate.

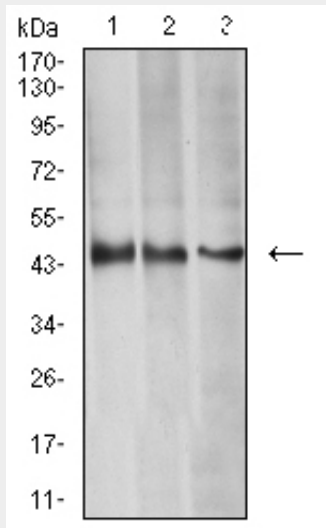


Figure 4:Western blot analysis using AURKA mouse mAb against HEK293 (1), MCF-7 (2), and Hela (3) cell lysate.

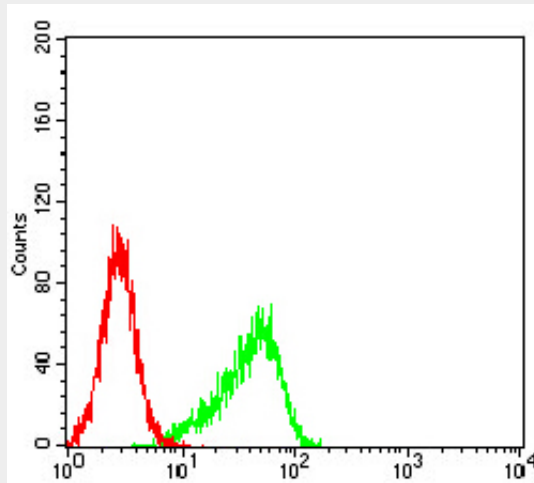


Figure 7:Flow cytometric analysis of HeLa cells using AURKA mouse mAb (green) and negative control (red).

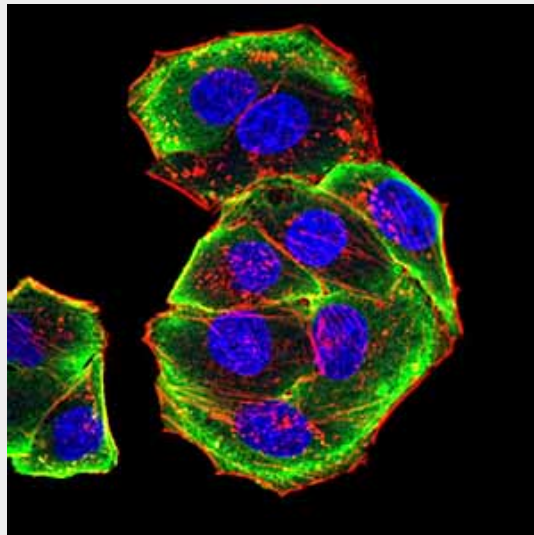


Figure 5:Immunofluorescence analysis of Hela cells using AURKA mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor- 555 phalloidin. Secondary antibody from Fisher (Cat#: 35503)

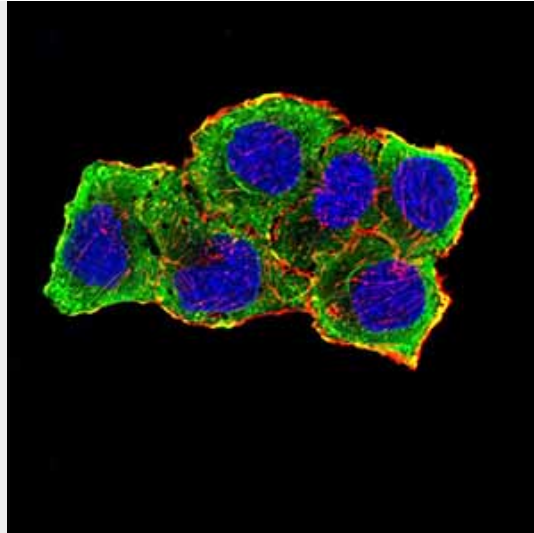


Figure 6:Immunofluorescence analysis of SMMC-7721 cells using AURKA mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor- 555 phalloidin. Secondary antibody from Fisher (Cat#: 35503)

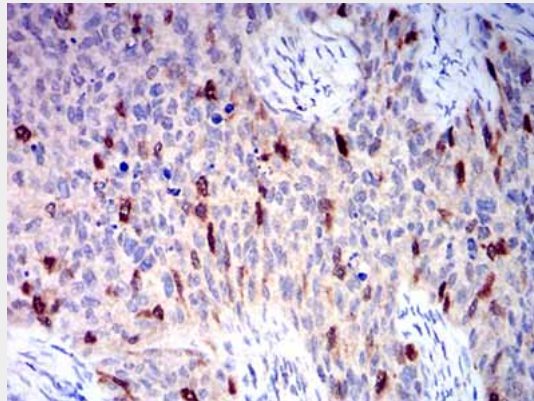


Figure 8:Immunohistochemical analysis of paraffin-embedded cervical cancer tissues using AURKA mouse mAb with DAB staining.

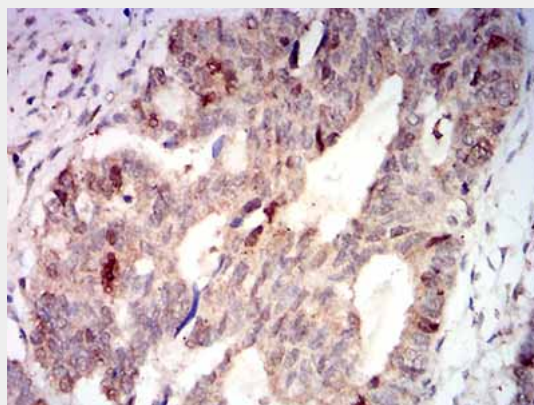


Figure 9:Immunohistochemical analysis of paraffin-embedded rectum cancer tissues using AURKA mouse mAb with DAB staining.

AURKA - References

- 1.Mol Cancer Ther. 2015 Dec;14(12):2753-61.2.Oncol Res Treat. 2015;38(9):442-7.