abcam

ab13824

Anti-Aurora A antibody [35C1]

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	35C1
Purification technique	Affinity purification
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	2 µg for 10^6 Cells
Notes	ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information AURKA

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). 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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Aurora A also known as Aurora kinase A is an important serine/threonine kinase with a protein mass of approximately 46 kDa. It is commonly found in various tissues but its expression is particularly high during mitosis in dividing cells. Aurora A operates primarily at the centrosomes where it is pivotal for processes such as centrosome maturation separation and the establishment of the mitotic spindle. The kinase activity of Aurora A is important for proper chromosome alignment and segregation. Scientists often use Aurora A as a marker in studies related to cell division and cancer.
Biological function summary	Aurora A plays key roles in the regulation of the cell cycle and mitosis. It functions as part of the Aurora mouse kinase complex associating with other proteins to ensure accurate chromosomal segregation and cytokinesis. Aurora A is involved in centrosome dynamics and interacts with proteins such as 35C1 aiding its localization to the correct cellular structures. The protein's role in the cell cycle and mitotic checkpoints makes it a subject of interest for researchers examining cancer proliferation.
Pathways	Aurora A integrates into both the mitotic spindle assembly checkpoint and DNA damage repair pathways. Within these pathways Aurora A partners with proteins like APC (Anaphase Promoting Complex) to ensure timely progression through mitosis and safeguard genomic stability. The spindle assembly pathway ensures that spindle fibers correctly attach to chromosomes a process in which Aurora A proves instrumental. Its interaction with other kinases and regulatory molecules in these pathways highlights its regulatory importance in cell proliferation.
Associated diseases and disorders	Research identifies Aurora A's association with oncological conditions such as breast and ovarian cancers. Overexpression or amplification of Aurora A correlates with tumor progression and poor prognosis as it can lead to chromosomal instability. In these diseases Aurora A activity is linked with dysregulated pathways involving proteins like p53 and BRCA1 which normally function in DNA damage response and repair. Targeted inhibition of Aurora A represents a promising avenue in cancer therapy as it might restore normal cell cycle control and reduce cancer cell viability.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

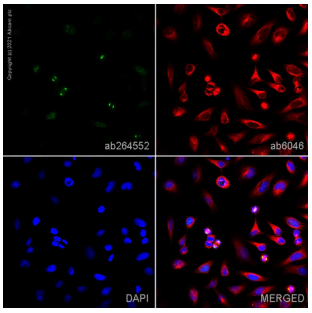
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

---

4 product images

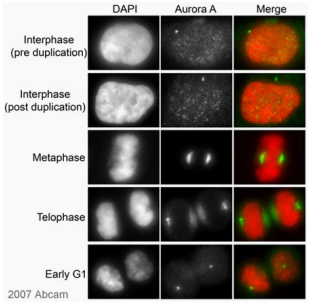


Immunocytochemistry/ Immunofluorescence - Anti-Aurora A antibody [35C1] (ab13824)

Aurora A Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Aurora A antibody

This data was developed using the same antibody clone in a different buffer formulation without PBS and sodium azide (ab264552)
ab264552 staining Aurora A in HeLa cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab264552 at 5µg/ml and ab6046, Rabbit polyclonal to beta Tubulin - Loading Control. Cells were then incubated with ab150117, Goat polyclonal Secondary Antibody to Mouse IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (shown in green) and ab150080, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 594) at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was acquired with a confocal microscope (Leica-Microsystems TCS SP8) and a single confocal section is shown.

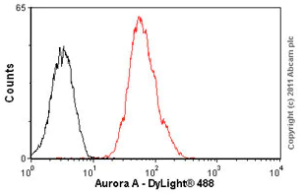


Immunocytochemistry/ Immunofluorescence - Anti-Aurora A antibody [35C1] (ab13824)

Aurora A Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Aurora A antibody

ab13824, at 1/2000 dilution, detecting Aurora A (green) in Hela Cells in conjunction with a Goat anti-mouse secondary antibody conjugated to Cy3®. Cells were fixed with methanol and counterstained with DAPI. Please refer to abreview for further details.

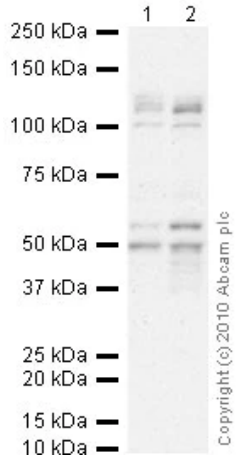
This image is courtesy of a customer review submitted by Dr Kirk McManus



Flow Cytometry (Intracellular) - Anti-Aurora A antibody [35C1] (ab13824)

Aurora A Flow Cytometry (Intracellular) staining using mouse Anti-Aurora A antibody

Overlay histogram showing HeLa cells stained with ab13824 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab13824, 2µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2b [PLPV219] (ab91366, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Western blot - Anti-Aurora A antibody [35C1] (ab13824)

This blot was produced using 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200v for 50 minutes. The membrane was then blocked for an hour using 2% Bovine Serum Albumin before being incubated with ab13824 over night at 4°C. Antibody binding was detected using an anti-mouse antibody conjugated to HRP, and visualised using ECL development solution.
All lanes:
Western blot - Anti-Aurora A antibody [35C1] (ab13824) at 5 µg/mL

Lane 1:
Jurkat (Human T cell lymphoblast-like cell line) Whole Cell Lysate at 20 µg

Lane 2:
HEK293 (Human embryonic kidney cell line) Whole Cell Lysate at 20 µg

Secondary

All lanes:
Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 45 kDa

Observed band size: 125 kDa, 50 kDa, 55 kDa

Exposure time: 20min

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.