

Aurora-A Antibody (N-term E107) Blocking Peptide
Synthetic peptide
Catalog # BP7002a**Specification**

Aurora-A Antibody (N-term E107) Blocking Peptide - Product InformationPrimary Accession [O14965](#)**Aurora-A Antibody (N-term E107) Blocking Peptide - 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

The synthetic peptide sequence used to generate the antibody [AP7002a](/product/products/AP7002a) was selected from the N-term region of human Aurora-A. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Aurora-A Antibody (N-term E107) Blocking Peptide - Protein Information**Name** AURKA ([HGNC:11393](#))**Function**

Mitotic serine/threonine kinase that contributes to the regulation of cell cycle progression (PubMed: [11039908](http://www.uniprot.org/citations/11039908), PubMed: [12390251](http://www.uniprot.org/citations/12390251), PubMed: [17125279](http://www.uniprot.org/citations/17125279), PubMed: [17360485](http://www.uniprot.org/citations/17360485), PubMed: [18615013](http://www.uniprot.org/citations/18615013), PubMed: [26246606](http://www.uniprot.org/citations/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

Aurora-A Antibody (N-term E107) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

Aurora-A Antibody (N-term E107) Blocking Peptide - Images**Aurora-A Antibody (N-term E107) Blocking Peptide - 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. Aurora 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 (N-term E107) Blocking Peptide - 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).