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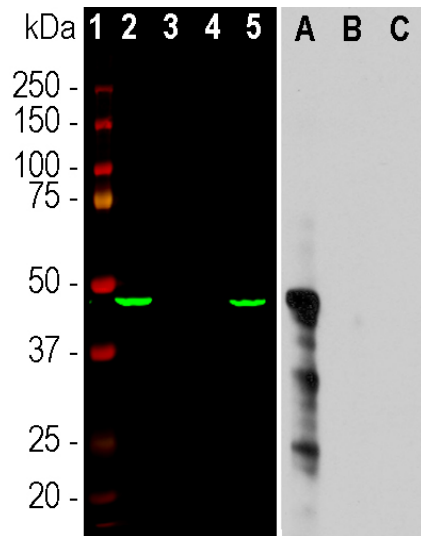
HGNC Name: AURKA
UniProt: O14965
RRID: AB_2572228
Immunogen: Full length recombinant human aurora A expressed in and purified from *E. coli*
Format: Concentrated hybridoma cell culture media plus 5mM NaN₃
Storage: Store at 4°C for short term, for longer term at -20°C. Avoid freeze/thaw cycles.
Recommended dilutions:
WB: 1:100-1:500. ICC/IF and IHC: 1:100-1:500.

References:

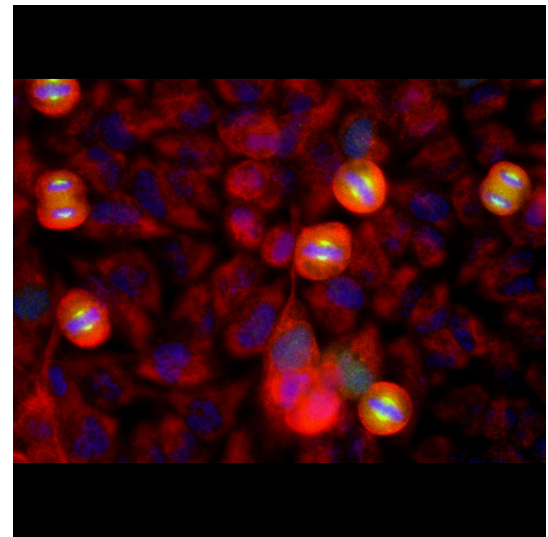
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A sequence alignment of the 3 human aurora molecules can be downloaded from http://encorbio.com/Alignments/Aurora_alignment.pdf.

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, IF/IHC, IHC	Mouse	IgG1	46kDa	Hu, Ms



Western blot analysis of different cell lysates and recombinant protein solutions using mouse mAb to aurora A, MCA-1A11. Left: cells were treated with 100ng/mL of nocodazol (a microtubule depolymerizing agent which induces cells to halt at G2/M phase) for 6 hours: [1] protein standard, [2] HeLa, [3] canine A72 cells, [4] Equine NBL6 cells, and [5] murine KR158 cells. The antibody apparently does not recognize canine or equine aurora A, but does bind human and murine. Right: equal amounts of purified human recombinant aurora A, B, C as indicated. The MCA-1A11 antibody reacts with the aurora A recombinant protein but not aurora B or C.



Immunofluorescent analysis of HeLa cell cultures stained with mouse mAb to aurora A kinase, MCA-1A11, in green, and costained with chicken pAb to vimentin, CPCA-Vim, in red. The blue is DAPI staining of nuclear DNA. MCA-1A11 antibody labels aurora A protein expressed in spindle poles at late mitosis.

Background:

Aurora proteins are a family of serine/threonine protein kinases which play a key role in the regulation of cell division which were originally discovered in studies of *Drosophila* (1). Mammalian genomes encode 3 aurora kinases named aurora A, B and C, each containing a variable regulatory domain at the N terminus followed by a catalytic serine/threonine kinase domain which is almost identical between them, see [here](#) for sequence alignment. As a result it is possible to generate antibodies which react with only one aurora kinase or cross react with two or more other kinases. Aurora A and B are almost ubiquitous in distribution while C is normally only expressed in testis. Aurora A is required for centrosome duplication, entry into mitosis, formation of bipolar spindle and mitotic checkpoint (3). Aurora B is a chromosomal passenger protein and essential for chromosome condensation, kinetochore functions, spindle checkpoint activation and cytokinesis completion (4). Aurora C is normally involved in spermatogenesis, but may also be expressed in many transformed cell lines and tumors and has been less well studied to date (5). The aurora kinases are essential for the progression to cell division and as a result there has been much interest in the development of drugs aimed at inhibiting their activity for use as anticancer agents (6,7). We have made a panel of antibodies to the aurora kinases, concentrating originally on aurora A and B, and we made recombinant full length human aurora constructs of all three to document their potential cross reactivity.

MCA-1A11 was made against recombinant human aurora A, and was shown to be non-reactive with aurora B or C. As expected the antibody localizes aurora A in spindle poles and mitotic spindles at late mitosis and recognizes the appropriate sized protein in human and mouse cell lysates on western blots. We also supply other aurora specific antibodies, to both aurora A and B, [MCA-5A12](#) and [MCA-3H1](#), aurora B specific, [MCA-6G2](#), and [MCA-3F11](#).

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Abbreviation Key:

mAb—Monoclonal Antibody **pAb**—Polyclonal Antibody **WB**—Western Blot **IF**—Immunofluorescence **ICC**—Immunocytochemistry
IHC—Immunohistochemistry **E**—ELISA **Hu**—Human **Mo**—Monkey **Do**—Dog **Rt**—Rat **Ms**—Mouse **Co**—Cow **Pi**—Pig **Ho**—Horse **Ch**—Chicken
Dr—*D. rerio* **Dm**—*D. melanogaster* **Sm**—*S. mutans* **Ce**—*C. elegans* **Sc**—*S. cerevisiae* **Sa**—*S. aureus* **Ec**—*E. coli*.