

Product Information

Anti-Aurora B

Developed in Rabbit
IgG Fraction of Antiserum

Product Number **A 5102**

Product Description

Anti-Aurora B is developed in rabbit using a synthetic peptide corresponding to amino acid residues 1-19 of human Aurora B with C-terminal added cysteine, conjugated to KLH as immunogen. The corresponding sequence differs by five amino acids in mouse and rat. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-Aurora B recognizes human, mouse, and rat Aurora B. Applications include immunoblotting (41 kDa), immunoprecipitation, and immunofluorescence. Detection of the Aurora B band by immunoblotting is specifically inhibited with the immunizing peptide.

Aurora B (AIRK2, AIR-2 kinase, AIM-1) is a serine/threonine kinase that plays key roles in chromosome segregation, cytokinesis, and cancer development.^{1,2} It also plays a role in chromosomal condensation by phosphorylating the H3 histone.³ In *C. elegans*, Aurora-B is required for normal localization and function of the ZEN-4/CeMKLP, a kinesin-related protein essential for completion of cytokinesis.⁴ Loss of the Aurora B kinase results in chromosome segregation defects and failures in cytokinesis.²

Aurora B is evolutionally conserved from yeast to human. The *Drosophila* serine/threonine protein kinase Aurora and the *S. cerevisiae* Ipl1 kinase are highly homologous to human Aurora B.⁵ Aurora B displays a localization pattern typical of chromosomal passenger proteins as the inner centromeric protein, INCENP, TD-60 and Survivin.¹ INCENP and Survivin interact directly with Aurora B.⁶ Chromosomal passenger proteins undergo dynamic redistribution during mitosis.

They localize at centromeres during prometaphase, and relocate to midzone microtubules and midbodies during anaphase and telophase.⁷ The mRNA and protein levels of Aurora B are induced during G₂M and decrease rapidly after the end of mitosis.² Levels of Aurora B are increased in several human cancer cell lines.⁸

Reagent

Anti-Aurora B is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 0.02 mM sodium azide.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

For immunoblotting, a minimum working antibody dilution of 1:2,000 is recommended using an extract of rat PC-12 cells and a chemiluminescent detection reagent.

For immunoblotting, a minimum working antibody dilution of 1:1,000 is recommended using an extract of a nuclei enriched fraction of mouse NIH-3T3 cells and a chemiluminescent detection reagent.

For immunoprecipitation, 50-60 µg of the antibody immunoprecipitates Aurora B from a RIPA extract of 300 µg of human HeLa cells.

For indirect immunofluorescence, a minimum working antibody dilution of 1:50 is recommended using HeLa cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Adams, R.R., et al., Trends Cell Biol., **11**, 49-54 (2001).
2. Terada, Y., et al., EMBO J., **17**, 667-676 (1998).
3. Hsu, J.Y., et al., Cell, **102**, 279-291 (2000).
4. Severson, A.F., et al., Curr. Biol., **10**, 1162-1171 (2000).
5. Giet, R., and Prigent, C., J. Cell Sci., **112**, 3591-3601 (1999).
6. Bolton, M.A., et al., Mol. Biol. Cell, **13**, 3064-3077 (2002).
7. Murata-Hori, M., et al., Mol. Biol. Cell, **13**, 1099-1108 (2002).
8. Adams, R.R., et al., Chromosoma, **110**, 65-74 (2001).

ST/KAA 05/03

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.