3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-Aurora B
produced in rabbit, IgG fraction of antiserum

Catalog Number **A5102**

Product Description

Anti-Aurora B is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 1-19 of human Aurora B with C-terminal added cysteine, conjugated to KLH. The corresponding sequence differs by five amino acids in mouse and rat. Whole antiserum is purified to provide an IgG fraction of antiserum.

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 centromers 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 G_2M and decrease rapidly after the end of mitosis.[2] Levels of Aurora B are increased in several human cancer cell lines.[8]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet 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, or storage in frost-free freezers, is 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

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

Immunoblotting: a minimum working dilution of 1:1,000 is recommended using an extract of a nuclei enriched fraction of mouse NIH-3T3 cells and a chemi-luminescent detection reagent.

Immunoprecipitation: 50-60 µg of the antibody immunoprecipitates Aurora B from a RIPA extract of 300 µg of human HeLa cells.

Indirect immunofluorescence: a minimum working dilution of 1:50 is recommended using HeLa cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend deter-mining 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).

DS,PHC 01/15-1