Product Data Sheet

Purified anti-Aurora A (Aurora 2)-Phosphorylated (Thr288)

Catalog #/ Size: 618701 / 50 µl (5 Western blots)
618702 / 200 µl (20 Western blots)

Clone: Poly6187

Isotype: Rabbit IgG

Immunogen: Modified peptide

Reactivity: Human, reacts with phosphorylated Aurora 2 (cross-reactivity with Aurora B can be observed in immunofluorescence)

Preparation: The antibody was purified by antigen-affinity chromatography.

Formulation: This antibody is provided in phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 50% glycerol.

Storage: Upon receipt, store frozen at -20° C.

Applications

Applications: WB, IF - *Quality tested.*
IHC* - **This application has been reported in the literature.*

Recommended Usage: Each lot of this antibody is quality control tested by Western blotting or immunofluorescence microscopy. For Western blotting, suggested working dilution(s): Use 10 µl per 5 ml antibody dilution buffer for each mini-gel for Western blotting. For immunofluorescence microscopy: Use a starting dilution of 1:500. Because the peptide immunogen is closely related to Aurora B, cross-reactivity to Aurora B may be observed under some experimental conditions. To minimize such cross-reactivity in immunofluorescence microscopy, it is recommended that the reagent be titrated and more stringent wash conditions be employed. It is strongly recommended that immunoprecipitation with a pan-specific Aurora antibody be carried out before Western blotting with the phospho-specific antibody to increase signal.

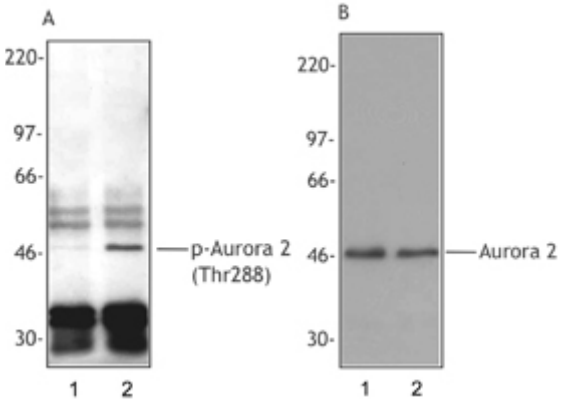

Figure 1. Panel A. Extracts from untreated Hela cells (Lane 1) or overnight nocodazole-treated Hela cells (Lane 2) were immunoprecipitated with a pan-Aurora A mAb (clone 35C1), resolved by electrophoresis, transferred to nitrocellulose and probed with rabbit polyclonal antibody against Thr288 phosphorylated Aurora A (Poly6187). Panel B. The blot shown in Panel A was stripped and re-probed with pan-Aurora specific polyclonal antibody (Poly6033) to verify equal loading of Aurora A in the extracts. In both A and B, proteins were visualized using a donkey anti-rabbit secondary conjugated to HRP and a chemiluminescence detection system.

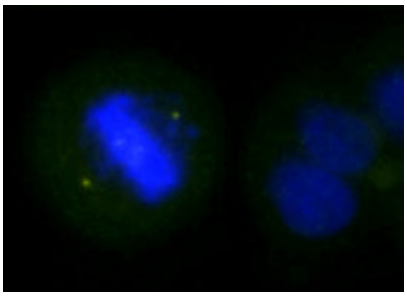

Figure 2. Overnight nocodazole treated Hela cells stained with purified rabbit polyclonal antibody against Thr288 phosphorylated Aurora A, followed by Alexa Fluor® 488-conjugated goat anti-rabbit IgG and DAPI.

Antigen Information

Other Names: Aurora 2, Aurora- and IPll-like kinase (AIK), Serine/threonine kinase 15, serine/threonine kinase 6

Structure: Serine/threonine kinase, Aurora subfamily, molecular weight approximately 46 kD

Distribution: High expression in thymus and some tumors. Also expressed in lung, testis, colon, placenta, and fetal liver. Localized in the midzone or central spindle in late anaphase; concentrated in the midbody in telophase and during cytokinesis.

Function: Cell cycle regulation during anaphase and/or telophase at centrosome/spindle pole during chromosome segregation. Defects in Aurora A cause numerous centrosome aberrations including aneuploidy (genetic variant with amino acid substitution F31I). Regulates

Regulation: Cell cycle regulated, low in G1/S, accumulates in G2/M. Expression is upregulated in cancer cells during M phase. Phosphorylation by PKA regulates function.

Modification: Phosphorylation (Thr 288)

Interactions: E2 ubiquitin-conjugating enzyme UBE2N with Phe 31 variant. Associates with centrosome and mitotic spindles, NM23-H1, protein phosphatase type I and localizes with γ-tubulin.

Description: Aurora A (also known as Aurora 2) is a serine/threonine kinase with a molecular weight of approximately 46 kD. This kinase is highly expressed in the thymus and some tumors and is also expressed in other tissues including the lung, testis, colon, placenta, and fetal liver. Aurora A localizes in the midzone or central spindle in late anaphase and is concentrated in the midbody in telophase and during cytokinesis. This kinase is believed to act in cell cycle regulation during anaphase and/or telophase at centrosome/spindle pole during chromosome segregation. Aurora A has been shown to regulate cleavage of polar spindle microtubules at the onset of cytokinesis during mitosis. Defects in Aurora A cause numerous centrosome aberrations including aneuploidy (genetic variant with amino acid substitution F31I). Aurora A expression is cell cycle regulated, low in G1/S, and accumulating in G2/M. Expression is upregulated in cancer cells during M phase. Phosphorylation by PKA has been shown to regulate function. Aurora A phosphorylation has been reported on Thr 288. This kinase associates with the centrosome and mitotic spindles, NM23-H1, protein phosphatase type I, and co-localizes with γ-tubulin. The Phe 31 variant has been shown to interact with the E2 ubiquitin-conjugating enzyme, UBE2N. The Poly6187 antibody has been shown to react with phosphorylated human Aurora A. This antibody has weak avidity for Aurora B in immunofluorescence. To minimize Aurora B cross-reactivity, it is recommended that the reagent be titrated and more stringent wash conditions be employed.

Antigen References:

1. Still, I., *et al*., 1999. *Genomics* 58:165.
2. McKeveney, P., *et al*., 2001. *Br. J. Haematol*.. 112:1016.
3. Piekorz, R., *et al*., 2002. *EMBO J.* 21:653.
4. Sadek, C., *et al*., 2003. *Gene Expr. Patterns*. 3:203.