

Phospho-Aurora A (Thr288)/Aurora B (Thr232)/Aurora C (Thr198) (D13A11) XP™ Rabbit mAb

- Small 100 µl
(20 western blots)
- Petite 40 µl
(8 western blots)

rev. 04/05/10

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

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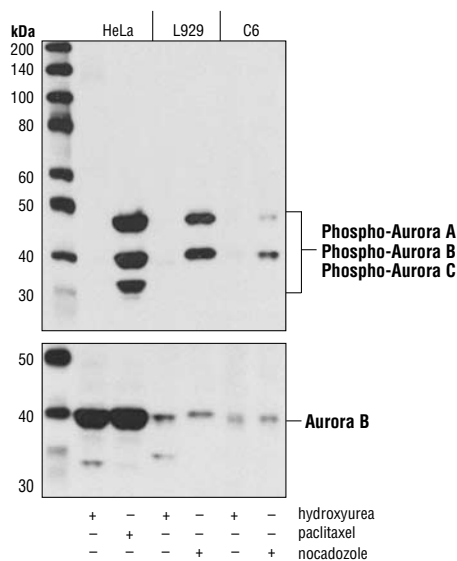
Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IF-IC, F Endogenous	H, M, R	35,40,48 kDa	Rabbit IgG**

Background: Aurora kinases belong to a highly conserved family of mitotic serine/threonine kinases with three members identified among mammals: Aurora A, Aurora B and Aurora C (1,2). Studies on the temporal expression pattern and subcellular localization of Aurora kinases in mitotic cells suggest an association with mitotic structure. Their functional influences span from G2 to cytokinesis and may be involved in key cell cycle events such as centrosome duplication, chromosome biorientation and segregation, cleavage furrow positioning and ingression (3). Aurora A is detected at the centrosomes, along mitotic spindle microtubules and in the cytoplasm of mitotically proliferating cells. Aurora A protein levels are low during G1 and S phases and peak during the G2/M phase of the cell cycle. Phosphorylation of Aurora A at Thr288 in its catalytic domain increases kinase activity. Aurora A is involved in centrosome separation, maturation and spindle assembly and stability. Expression of Aurora B protein also peaks during the G2/M phase of the cell cycle, while

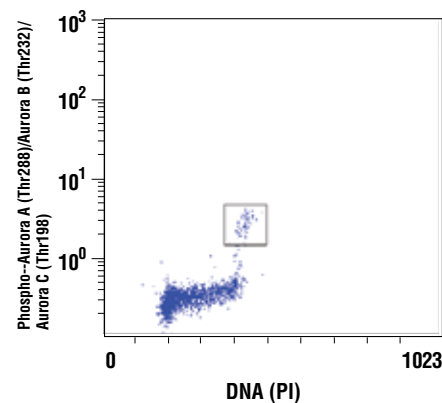
kinase activity peaks at the transition from metaphase to the end of mitosis. Aurora B associates with chromosomes during prophase prior to relocating to the spindle at anaphase. Aurora B regulates chromosome segregation through the control of microtubule-kinetochore attachment and cytokinesis. Expression of both Aurora A and Aurora B during the G2/M phase transition is tightly coordinated with histone H3 phosphorylation (4,5), while overexpression of both kinases is seen in a variety of human cancers (2,4). Aurora C localizes to the centrosome from anaphase to cytokinesis and both mRNA and protein levels peak during G2/M phase. Although typical Aurora C expression is limited to the testis, overexpression of Aurora C is detected in various cancer cell lines (6).

Specificity/Sensitivity: Phospho-Aurora A (Thr288)/Aurora B (Thr232)/Aurora C (Thr198) (D13A11) XP™ Rabbit mAb detects endogenous levels of Aurora A/B/C only when phosphorylated at Thr288, Thr232 or Thr198, respectively.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Thr232 of human Aurora B.



Western blot analysis of extracts from HeLa, L929 and C6 cells, treated with 4 mM hydroxyurea for 20 hours to induce G1/S phase or treated with 100 nM paclitaxel or 100 ng/ml nocodazole for 20 hours to induce G2/M phase, using Phospho-Aurora A (Thr288)/Aurora B (Thr232)/Aurora C (Thr198) (D13A11) XP™ Rabbit mAb (upper) or Aurora B/AIM1 Antibody #3094 (lower).



Flow cytometric analysis of untreated Jurkat cells using Phospho-Aurora A (Thr288)/Aurora B (Thr232)/Aurora C (Thr198) (D13A11) XP™ Rabbit mAb compared to propidium iodide (DNA content). The boxed population indicates phospho-Aurora A (Thr288)/Aurora B (Thr232)/Aurora C (Thr198)-positive cells.

Entrez-Gene ID # 9212
Swiss-Prot Acc. # Q96GD4

Storage: Supplied in 10mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

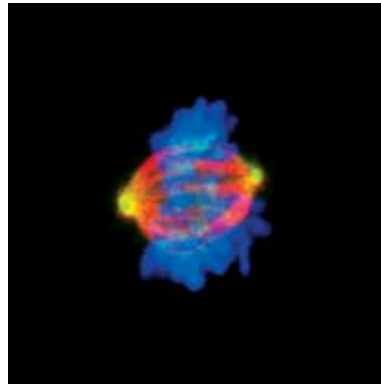
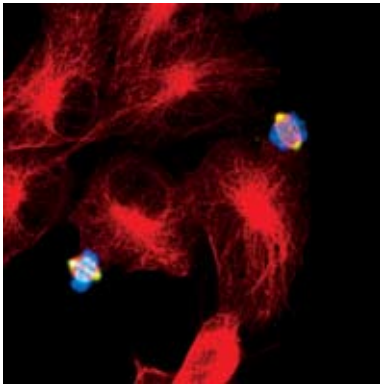
Western Blotting	1:2000
Immunofluorescence (IF-IC)	1:50
Flow Cytometry:	1:50

For application specific protocols please see the web page for this product at www.cellsignaling.com.

Please visit www.cellsignaling.com for a complete listing of recommended companion products.

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IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.



Confocal immunofluorescent analysis of HT-1080 cells using Phospho-Aurora A (Thr288)/Aurora B (Thr232)/Aurora C (Thr198) (D13A11) XP™ Rabbit mAb (green), β -Tubulin (9F3) Rabbit mAb (Alexa Fluor® 555 Conjugate) #2116 (red), and Phospho-Histone H3 (Ser10) (6G3) Mouse mAb #9706 (blue).

Background References:

- (1) Warner, S.L. et al. (2003) *Mol. Cancer Ther.* 2, 589–595.
- (2) Katayama, H. et al. (2003) *Cancer Metastasis Rev.* 22, 451–464.
- (3) Andrews, P.D. et al. (2003) *Curr. Opin. Cell Biol.* 15, 672–683.
- (4) Pascreau, G. et al. (2003) *Prog. Cell Cycle Res.* 5, 369–374.
- (5) Crosio, C. et al. (2002) *Mol. Cell. Biol.* 22, 874–885.
- (6) Kimura, M. et al. (1999) *J. Biol. Chem.* 274, 7334–7340.