

Aurora A (D3V7T) XP[®] Rabbit mAb

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IHC-P	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 48	Source/Isotype: Rabbit IgG	UniProt ID: #O14965	Entrez-Gene Id: 6790
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Product Usage Information**Application**

Western Blotting
Immunohistochemistry (Paraffin)

Dilution

1:1000
1:250 - 1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #34453.

Specificity/Sensitivity

Aurora A (D3V7T) XP[®] Rabbit mAb recognizes endogenous levels of total Aurora A protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro381 of human Aurora A protein.

Background

Aurora kinases belong to a highly conserved family of mitotic serine/threonine kinases with three members identified among mammals: Aurora A, B, and C (1,2). Studies on the temporal expression pattern and subcellular localization of Aurora kinases in mitotic cells suggest an association with mitotic structure. Aurora kinase functional influences span from G2 phase to cytokinesis and may be involved in key cell cycle events such as centrosome duplication, chromosome bi-orientation 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; Aurora B kinase activity peaks at the transition from metaphase to the end of mitosis. Aurora B associates with chromosomes during prophase prior to relocalizing 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); research investigators have observed overexpression of these kinases 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, research studies report overexpression of Aurora C is detected in various cancer cell lines (6).

Background References

1. Warner, S.L. et al. (2003) *Mol Cancer Ther* 2, 589-95.
2. Katayama, H. et al. (2003) *Cancer Metastasis Rev* 22, 451-64.
3. Andrews, P.D. et al. (2003) *Curr Opin Cell Biol* 15, 672-83.
4. Pascreau, G. et al. (2003) *Prog Cell Cycle Res* 5, 369-74.
5. Crosio, C. et al. (2002) *Mol Cell Biol* 22, 874-85.
6. Kimura, M. et al. (1999) *J Biol Chem* 274, 7334-40.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IHC-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

H: Human

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