Revision 1

Store at 4C and -20C

#7115

PathScan® Phospho-Aurora A (Thr288) Sandwich ELISA Antibody Pair

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355) orders@cellsignal.com

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Web: info@cellsignal.com cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

UniProt ID: #O14965 **Entrez-Gene Id:** #6790

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

Description

CST's PathScan® Phospho-Aurora A (Thr288) Sandwich ELISA Antibody Pair is being offered as an economical alternative to our PathScan® Phospho-Aurora A (Thr288) Sandwich ELISA Kit #7114. Capture and Detection Antibodies (100X stocks) and HRP-conjugated streptavidin (1000X stock) are supplied. Sufficient reagents are supplied for 4 x 96 well ELISAs. The Aurora A Rabbit Capture Antibody is coated in PBS overnight in a 96 well microplate. After blocking, cell lysates are added followed by biotinylated Phospho-Aurora A (Thr288) Rabbit Detection Antibody and HRP-conjugated streptavidin. HRP substrate (TMB) is added for color development. The magnitude of the absorbance for this developed color is proportional to the quantity of phospho-Aurora A (Thr288) protein.
*Antibodies in this kit are custom formulations specific to the kit.

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

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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.
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6. Kimura, M. et al. (1999) *J Biol Chem* 274, 7334-40.

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