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[Primary Antibody]

Rabbit Anti-Aurora B antibody

Catalog Number: SL22287R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Aurora B
Immunogen:	KLH conjugated synthetic peptide derived from human Aurora B : 271-344/344
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB=1:500-2000 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Mouse, (predicted: Human, Rat)
Predicted MW.:	39kDa
Subcellular Location:	The nucleus cytoplasmic
Background:	This gene encodes a member of the aurora kinase subfamily of serine/threonine kinases. The genes encoding the other two members of this subfamily are located on chromsomes 19 and 20. These kinases participate in the regulation of segregation of chromosomes during mitosis and meiosis through association with microtubules. A pseudogene of this gene is located on chromosome 8. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Feb 2012]. **Function:** Serine/threonine-protein kinase component of the chromosomal passenger complex (CPC), a complex that acts as a key regulator of mitosis. The CPC complex has essential functions at the centromere in ensuring correct chromosome alignment and segregation and is required for chromatin-induced microtubule stabilization and spindle assembly. Involved in the bipolar attachment of spindle microtubules to kinetochores and is a key regulator for the onset of cytokinesis during mitosis.

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	Required for central/midzone spindle assembly and cleavage furrow formation. AURKB phosphorylates the CPC complex subunits BIRC5/survivin, CDCA8/borealin and INCENP. Phosphorylation of INCENP leads to increased AURKB activity. Other known AURKB substrates involved in centromeric functions and mitosis are CENPA, DES/desmin, GPAF, KIF2C, NSUN2, RACGAP1, SEPT1, VIM/vimentin, GSG2/Haspin, and histone H3. A positive feedback loop involving GSG2 and AURKB contributes to localization of CPC to centromeres. Phosphorylation of VIM controls vimentin filament segregation in cytokinetic process, whereas histone H3 is phosphorylated at 'Ser-10' and 'Ser-28' during mitosis. A positive feedback between GSG2 and AURKB contributes to CPC localization. AURKB is also required for kinetochore localization of BUB1 and SGOL1. Phosphorylation of p53/TP53 negatively regulates its transcriptional activity. **Subunit:** Component of the chromosomal passenger complex (CPC) composed of at least BIRC5/survivin, CDCA8/borealin, INCENP, AURKB and AURKC. Associates with RACGAP1 during M phase. Interacts with CDCA1, EVI5, JTB, NDC80, PSMA3, SEPT1 and TACC1. Interacts with SPDYC; this interaction may be required for proper localization of active, Thr-232-phosphorylated AURKB form during prometaphase and metaphase. Interacts with p53/TP53. Interacts (via the middle kinase domain) with NOC2L (via the N- and C-terminus domains). **Subcellular Location:** Nucleus. Chromosome. Chromosome, centromere. Cytoplasm, cytoskeleton, spindle. Note=Localizes on chromosome arms and inner centromeres from prophase through metaphase and then transferring to the spindle midzone and midbody from anaphase through cytokinesis. Colocalized with gamma tubulin in the mid-body. Proper localization of the active, Thr-232-phosphorylated form during metaphase may be dependent upon interaction with SPDYC. **Tissue Specificity:** High level expression seen in the thymus. It is also expressed in the spleen, lung, testis, colon, placenta and fetal liver. Expressed during S and G2/M phase and expression is up-regulated in cancer cells during M phase. **Post-translational modifications:** The phosphorylation of Thr-232 requires the binding to INCENP and occurs by means of an autophosphorylation mechanism. Thr-232 phosphorylation is indispensable for the AURKB kinase activity. Ubiquitinated by different BCR (BTB-CUL3-RBX1) E3 ubiquitin ligase complexes. Ubiquitinated by the BCR(KLHL9-KLHL13) E3 ubiquitin ligase

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	complex, ubiquitination leads to removal from mitotic chromosomes and is required for cytokinesis. During anaphase, the BCR(KLHL21) E3 ubiquitin ligase complex recruits the CPC complex from chromosomes to the spindle midzone and mediates the ubiquitination of AURKB. Ubiquitination of AURKB by BCR(KLHL21) E3 ubiquitin ligase complex may not lead to its degradation by the proteasome. DISEASE: Note=Disruptive regulation of expression is a possible mechanism of the perturbation of chromosomal integrity in cancer cells through its dominant-negative effect on cytokinesis. **Similarity:** Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. Aurora subfamily. Contains 1 protein kinase domain. **Database links:** **Entrez Gene:** 9212 Human **Entrez Gene:** 20877 Mouse **Entrez Gene:** 114592 Rat Omim: 604970 Human **SwissProt:** Q96GD4 Human **SwissProt:** O70126 Mouse **SwissProt:** O55099 Rat **Unigene:** 442658 Human **Unigene:** 3488 Mouse **Unigene:** 10865 Rat Mitosis of cells is the most basic life activity process of organisms, which can accurately distribute the replicated genome to the next generation of daughter cells. During the long-term biological evolution, organisms have formed a complete set of monitoring mechanisms to ensure the accurate distribution of genetic material to daughter cells. Aurora kinase is an important class of serine/threonine kinases in the cell mitosis regulatory network. Aurora tyrosine kinase B is also a member of the serine/threonine kinase family, which is currently divided into aurora A, B and C.

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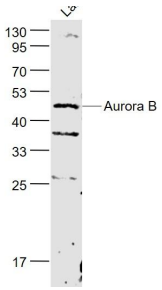
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[VALIDATION IMAGES]



Sample:
Large intestine (Mouse) Lysate at 40 ug
Primary: Anti- Aurora B (SL22287R) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 39 kD
Observed band size: 48 kD

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