

Rabbit Anti-Aurora B antibody

SLM-60554R

Product Name Aurora B

Chinese Name 有丝分裂激酶 B/Recombinant rabbit monoclonal anti

Alias STK-1; serine/threonine kinase 12; aurora-B; aurora-1; aurora kinase B-Sv1; aurora kinase B-Sv2; ARK-2; STK-1; STK1; aurora-related kinase 2; aurora/IPL1-related kinase 2; serine/threonine-protein kinase aurora-B; aurora- and Ipl1-like midbody-associated protein 1; AURKB; AIK2; AIM-1; AIM1; ARK2; AurB; aurkb-sv1; aurkb-sv2; IPL1; STK12; STK5; AIRK2; AURKB_HUMAN.

Research Area Tumour Cell biology Neurobiology Signal transduction Cyclin Kinases and Phosphatases

Immunogen Species Rabbit

Clonality Monoclonal

Clone NO. G6D12

React Species Human,Mouse

Applications WB=1:500-2000,IHC-P=1:50-200,IHC-F=1:50-200,ICC/IF=1:50-200,IF=1:50-200
(Paraffin sections need antigen repair)
not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.

Theoretical molecular weight 39kDa

Cellular localization The nucleus cytoplasmic

Form Liquid

Concentration 1mg/ml

immunogen KLH conjugated synthetic peptide derived from human Aurora B

Lsotype IgG

Purification affinity purified by Protein G

Buffer Solution 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.

Storage Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

Attention

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

PubMed

[PubMed](#)

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 chromosomes 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. 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.

**Product
Detail**

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 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.

SWISS:

Q96GD4

Gene ID:

9212

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

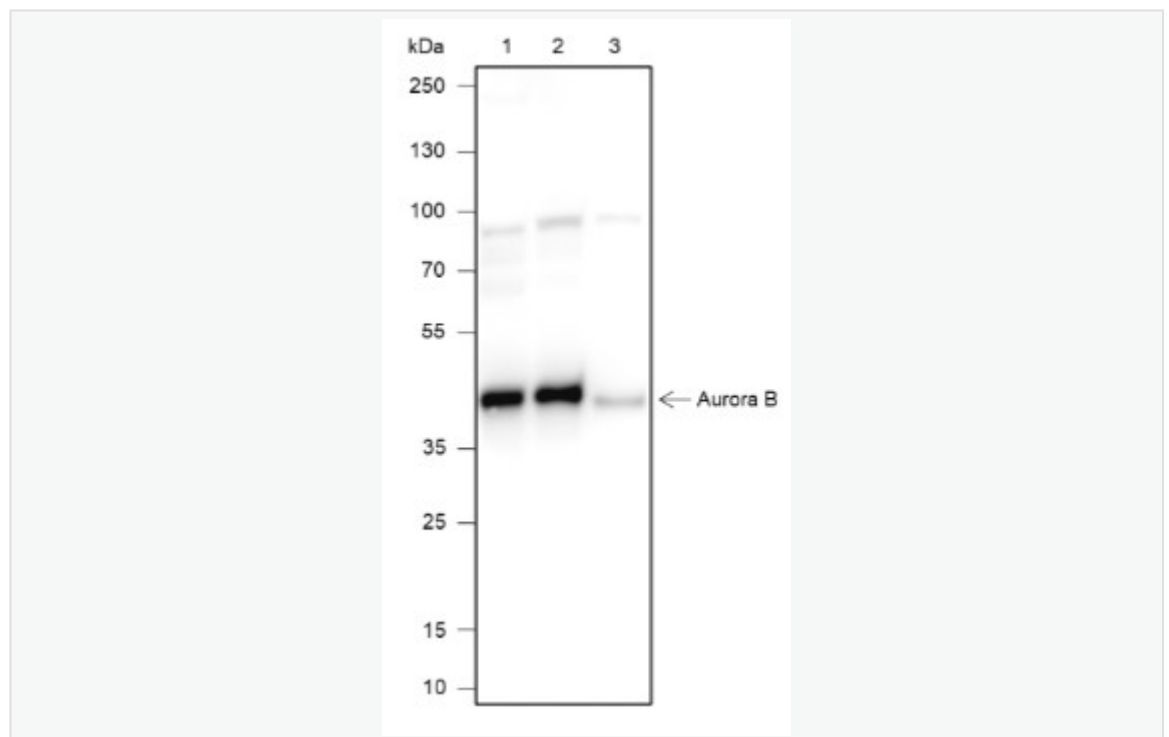
[Unigene: 3488](#) Mouse

[Unigene: 10865](#) Rat

细胞的有丝分裂是生物体最基本的生命活动过程,能将复制的基因组精确地分配到下一代子细胞中,在长期的生物进化过程中,生物体形成了一整套完善的监测机制以确保遗传物质精确地分配到子细胞中。

Aurora 激酶(极光激酶)是细胞有丝分裂调控网络中的一类重要的丝氨酸/苏氨酸激酶, Aurora 酪氨酸激酶 B 也是丝氨酸/苏氨酸激酶家族成员之一,目前分为 aurora A, B 及 C。

**Product
Picture**



Blocking buffer: 5% NFDM/TBST

Primary ab dilution: 1:1000

Primary ab incubation condition: 2 hours at
room temperature

Secondary ab: Goat Anti-Rabbit IgG H&L
(HRP)

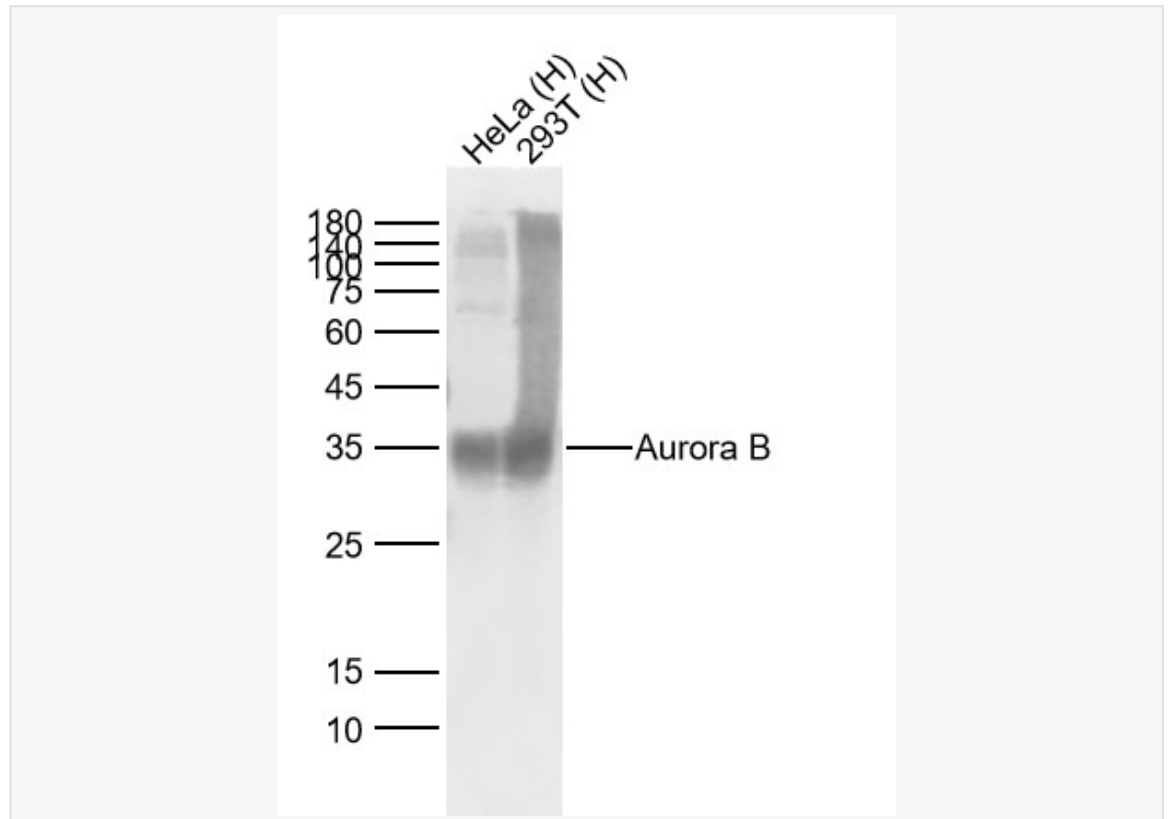
Lysate: 1: HeLa, 2: 293, 3: A20

Protein loading quantity: 20 μ g

Exposure time: 30 s

Predicted MW: 39 kDa

Observed MW: 39 kDa



Sample:

Lane 1: Human HeLa cell Lysates

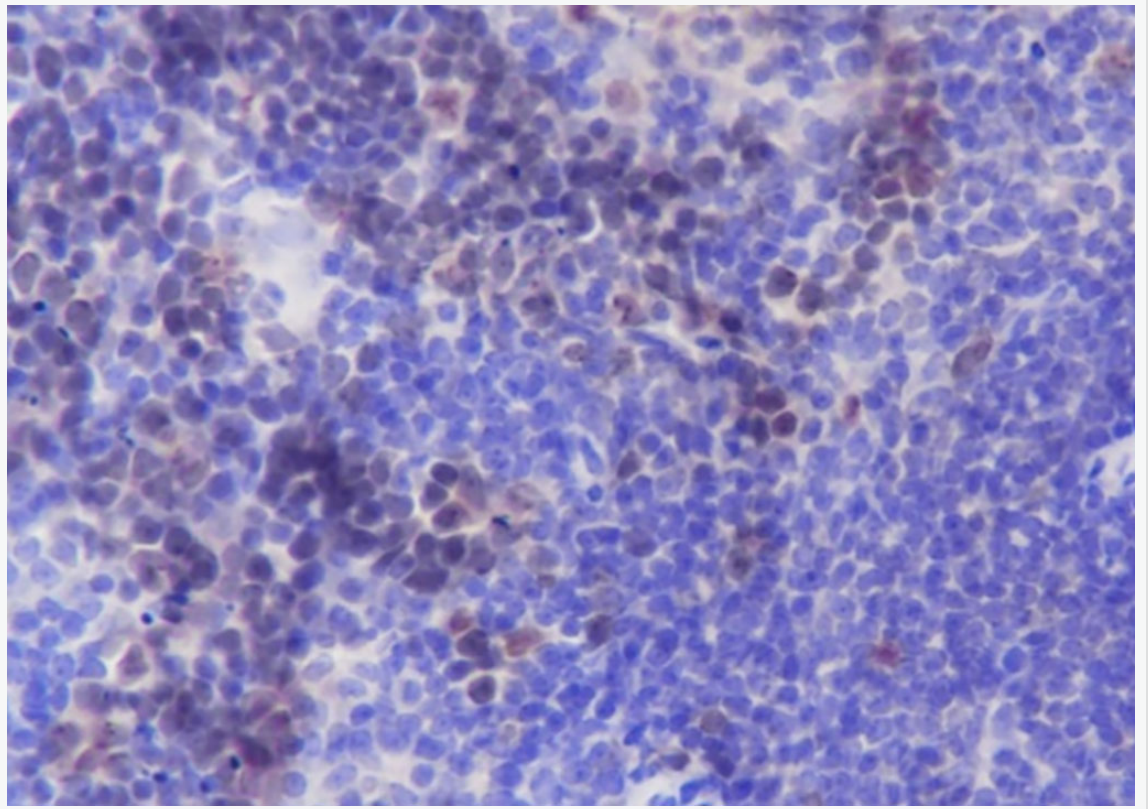
Lane 2: Human 293T cell Lysates

Primary: Anti-Aurora B (SLM-60554R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 39kDa

Observed band size: 35kDa



Tissue: Mouse spleen

Section type: Formalin fixed & Paraffin -embedded section

Retrieval method: High temperature and high pressure

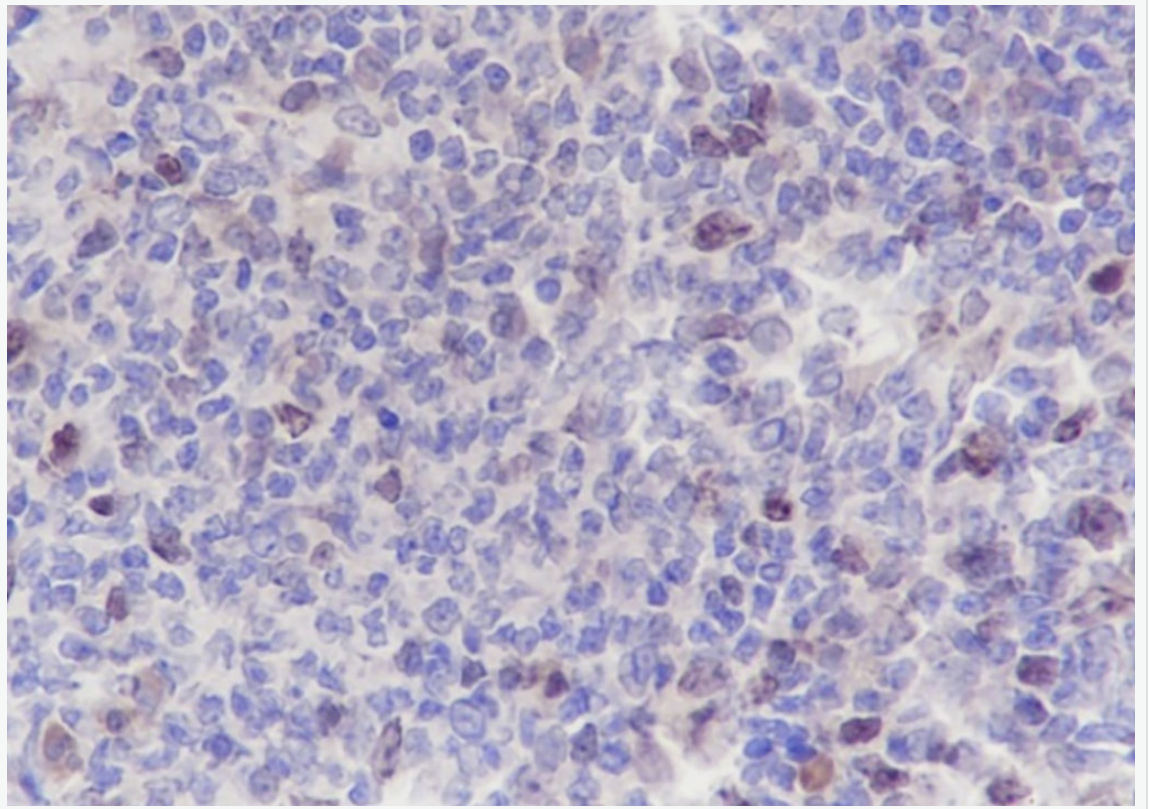
Retrieval buffer: Tris/EDTA buffer, pH 9.0 Primary ab dilution: 1:100

Primary ab incubation condition: 1 hour at room temperature

Secondary ab: SP Kit(Rabbit) (sp-0023)

Counter stain: Hematoxylin (Blue)

Comment: Color brown is the positive signal for SLM-60554R



Tissue: Human tonsil

Section type: Formalin fixed & Paraffin -embedded section

Retrieval method: High temperature and high pressure

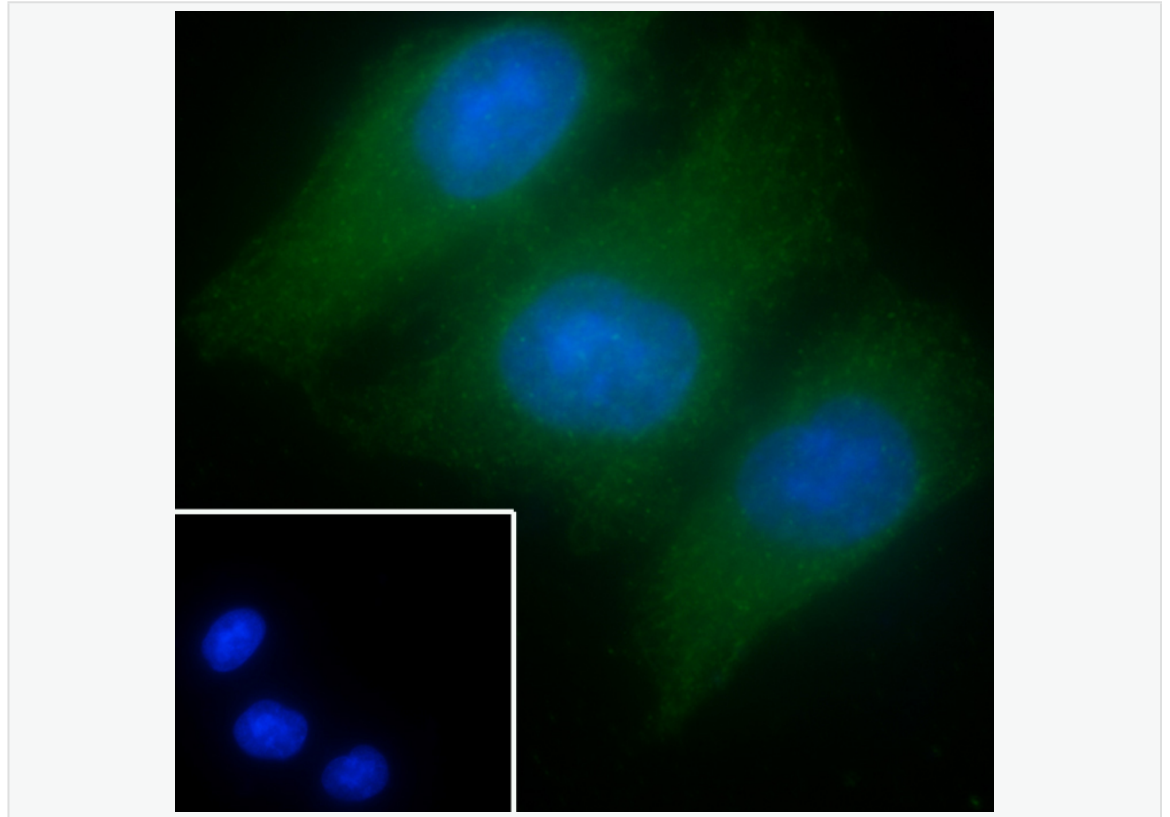
Retrieval buffer: Tris/EDTA buffer, pH 9.0 Primary ab dilution: 1:100

Primary ab incubation condition: 1 hour at room temperature

Secondary ab: SP Kit(Rabbit) (sp-0023)

Counter stain: Hematoxylin (Blue)

Comment: Color brown is the positive signal for SLM-60554R



Cell line: A549

Fixative: 100% Ice-cold methanol

Permeabilization: 0.1% TritonX-100

Primary ab dilution: 1:50

Primary incubation condition: 4°C overnight

Secondary ab: Goat Anti-Rabbit IgG

Nuclear counter stain: DAPI (Blue)

Comment: Color green is the positive signal for SLM-60554R