

**Anti-Aurora B (pan reactive) (RABBIT) Antibody**  
**AURORA KINASE B Antibody**  
**Catalog # ASR5241****Specification**

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**Anti-Aurora B (pan reactive) (RABBIT) Antibody - Product Information**

Host	Rabbit
Conjugate	Unconjugated
Target Species	Human
Reactivity	Human
Clonality	Polyclonal
Application	WB, E, I, LCI
Application Note	Anti-Aurora B is affinity purified antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 39 kDa in size corresponding to Aurora Kinase B by western blotting in the appropriate cell lysate or extract. Human brain tissue lysate or HeLa cell lysate can be used as a positive control.
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region near aa 225-250 of Human Aurora Kinase B protein.
Preservative	0.01% (w/v) Sodium Azide

**Anti-Aurora B (pan reactive) (RABBIT) Antibody - Additional Information****Gene ID** 9212**Other Names**  
9212**Purity**

Aurora B antibody is an affinity purified antibody produced by immunoaffinity chromatography using the immunizing peptide after immobilization to a solid phase. Reactivity occurs against human Aurora Kinase B protein. No reaction is expected against Aurora Kinase A. However, 100% sequence homology as indicated by BLAST analysis is on record for this protein from human, mouse, rat, cow, pig, dog and chimpanzee. Cross reactivity with Aurora Kinase B from other sources is not known.

**Storage Condition**

Store Anti-Aurora B at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for

extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

### Precautions Note

This product is for research use only and is not intended for therapeutic or diagnostic applications.

## Anti-Aurora B (pan reactive) (RABBIT) Antibody - Protein Information

### Name AURKB

### Function

Serine/threonine-protein kinase component of the chromosomal passenger complex (CPC), a complex that acts as a key regulator of mitosis (PubMed:<a href="http://www.uniprot.org/citations/11516652" target="\_blank">11516652</a>, PubMed:<a href="http://www.uniprot.org/citations/12925766" target="\_blank">12925766</a>, PubMed:<a href="http://www.uniprot.org/citations/14610074" target="\_blank">14610074</a>, PubMed:<a href="http://www.uniprot.org/citations/14722118" target="\_blank">14722118</a>, PubMed:<a href="http://www.uniprot.org/citations/29449677" target="\_blank">29449677</a>). 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 (PubMed:<a href="http://www.uniprot.org/citations/11516652" target="\_blank">11516652</a>, PubMed:<a href="http://www.uniprot.org/citations/12925766" target="\_blank">12925766</a>, PubMed:<a href="http://www.uniprot.org/citations/14610074" target="\_blank">14610074</a>, PubMed:<a href="http://www.uniprot.org/citations/14722118" target="\_blank">14722118</a>, PubMed:<a href="http://www.uniprot.org/citations/26829474" target="\_blank">26829474</a>). Involved in the bipolar attachment of spindle microtubules to kinetochores and is a key regulator for the onset of cytokinesis during mitosis (PubMed:<a href="http://www.uniprot.org/citations/15249581" target="\_blank">15249581</a>). Required for central/midzone spindle assembly and cleavage furrow formation (PubMed:<a href="http://www.uniprot.org/citations/12458200" target="\_blank">12458200</a>, PubMed:<a href="http://www.uniprot.org/citations/12686604" target="\_blank">12686604</a>). Key component of the cytokinesis checkpoint, a process required to delay abscission to prevent both premature resolution of intercellular chromosome bridges and accumulation of DNA damage: phosphorylates CHMP4C, leading to retain abscission-competent VPS4 (VPS4A and/or VPS4B) at the midbody ring until abscission checkpoint signaling is terminated at late cytokinesis (PubMed:<a href="http://www.uniprot.org/citations/22422861" target="\_blank">22422861</a>, PubMed:<a href="http://www.uniprot.org/citations/24814515" target="\_blank">24814515</a>). AURKB phosphorylates the CPC complex subunits BIRC5/survivin, CDCA8/borealin and INCENP (PubMed:<a href="http://www.uniprot.org/citations/11516652" target="\_blank">11516652</a>, PubMed:<a href="http://www.uniprot.org/citations/12925766" target="\_blank">12925766</a>, PubMed:<a href="http://www.uniprot.org/citations/14610074" target="\_blank">14610074</a>). Phosphorylation of INCENP leads to increased AURKB activity (PubMed:<a href="http://www.uniprot.org/citations/11516652" target="\_blank">11516652</a>, PubMed:<a href="http://www.uniprot.org/citations/12925766" target="\_blank">12925766</a>, PubMed:<a href="http://www.uniprot.org/citations/14610074" target="\_blank">14610074</a>). Other known AURKB substrates involved in centromeric functions and mitosis are CENPA, DES/desmin, GPAF, KIF2C, NSUN2, RACGAP1, SEPTIN1, VIM/vimentin, HASPIN, and histones H1.4 and H3 (PubMed:<a href="http://www.uniprot.org/citations/11756469" target="\_blank">11756469</a>, PubMed:<a href="http://www.uniprot.org/citations/11784863" target="\_blank">11784863</a>, PubMed:<a href="http://www.uniprot.org/citations/11856369" target="\_blank">11856369</a>, PubMed:<a href="http://www.uniprot.org/citations/12689593" target="\_blank">12689593</a>, PubMed:<a href="http://www.uniprot.org/citations/14602875" target="\_blank">14602875</a>, PubMed:<a href="http://www.uniprot.org/citations/16103226" target="\_blank">16103226</a>, PubMed:<a href="http://www.uniprot.org/citations/21511733" target="\_blank">21511733</a>, PubMed:<a

[21658950](http://www.uniprot.org/citations/21658950)). A positive feedback loop involving HASPIN and AURKB contributes to localization of CPC to centromeres (PubMed: [21658950](http://www.uniprot.org/citations/21658950)). Phosphorylation of VIM controls vimentin filament segregation in cytokinetic process, whereas histone H3 is phosphorylated at 'Ser-10' and 'Ser-28' during mitosis (H3S10ph and H3S28ph, respectively) (PubMed: [11784863](http://www.uniprot.org/citations/11784863), PubMed: [11856369](http://www.uniprot.org/citations/11856369)). AURKB is also required for kinetochore localization of BUB1 and SGO1 (PubMed: [15020684](http://www.uniprot.org/citations/15020684), PubMed: [17617734](http://www.uniprot.org/citations/17617734)). Phosphorylation of p53/TP53 negatively regulates its transcriptional activity (PubMed: [20959462](http://www.uniprot.org/citations/20959462)). Key regulator of active promoters in resting B- and T-lymphocytes: acts by mediating phosphorylation of H3S28ph at active promoters in resting B-cells, inhibiting RNF2/RING1B-mediated ubiquitination of histone H2A and enhancing binding and activity of the USP16 deubiquitinase at transcribed genes (By similarity). Acts as an inhibitor of CGAS during mitosis: catalyzes phosphorylation of the N-terminus of CGAS during the G2-M transition, blocking CGAS liquid phase separation and activation, and thereby preventing CGAS-induced autoimmunity (PubMed: [33542149](http://www.uniprot.org/citations/33542149)). Phosphorylates KRT5 during anaphase and telophase (By similarity). Phosphorylates ATXN10 which promotes phosphorylation of ATXN10 by PLK1 and may play a role in the regulation of cytokinesis and stimulating the proteasomal degradation of ATXN10 (PubMed: [25666058](http://www.uniprot.org/citations/25666058)).

#### Cellular Location

Nucleus. Chromosome. Chromosome, centromere. Chromosome, centromere, kinetochore. Cytoplasm, cytoskeleton, spindle. Midbody. 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 (PubMed:20929775). Colocalized with gamma tubulin in the midbody (PubMed:17726514). Proper localization of the active, Thr-232- phosphorylated form during metaphase may be dependent upon interaction with SPDYC (PubMed:20605920). Colocalized with SIRT2 during cytokinesis with the midbody (PubMed:17726514). Localization (and probably targeting of the CPC) to the inner centromere occurs predominantly in regions with overlapping mitosis-specific histone phosphorylations H3pT3 and H2ApT12 (PubMed:20929775).

#### Tissue Location

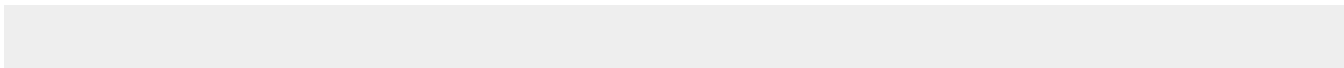
High level expression seen in the thymus. It is also expressed in the spleen, lung, testis, colon, placenta and fetal liver. Expressed during S and G2/M phase and expression is up-regulated in cancer cells during M phase.

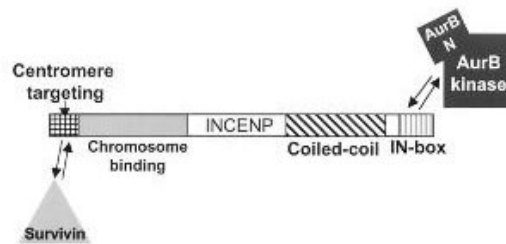
### Anti-Aurora B (pan reactive) (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Anti-Aurora B (pan reactive) (RABBIT) Antibody - Images





Survivin binds the N terminus of INCENP, whereas the N terminus of Aurora B binds the C terminus of INCENP. See Bolton et al. (2002).

### **Anti-Aurora B (pan reactive) (RABBIT) Antibody - Background**

Aurora Kinase B (also known as Aurora- and Ipl1-like midbody-associated protein 1, AIM-1, Aurora/IPL1-related kinase 2, Aurora-related kinase 2, STK-1, and Aurora-B) is a Ser/Thr protein kinase member of the Aurora subfamily that may be directly involved in regulating the cleavage of polar spindle microtubules and is a key regulator for the onset of cytokinesis during mitosis. Aurora Kinase B is localized to the midzone of central spindle in late anaphase and concentrated into the midbody in telophase and cytokinesis and is colocalized with gamma tubulin in the mid-body. High levels of Aurora B expression are seen in the thymus, although it is also expressed in the spleen, lung, testis, colon, placenta and fetal liver. Aurora B is expressed during S and G2/M phase and expression is up-regulated in cancer cells during M phase.