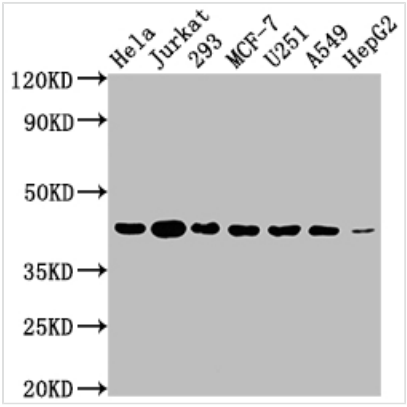
AURKB Recombinant Monoclonal Antibody

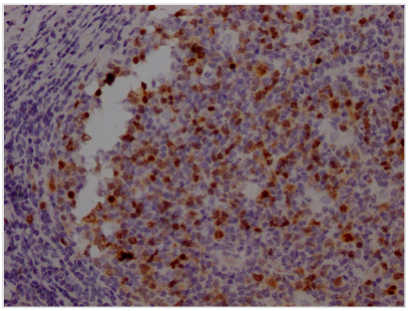
Product Code	CSB-RA230110A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	Q96GD4
Immunogen	A synthesized peptide derived from human Aurora B
Species Reactivity	Human
Tested Applications	ELISA, WB, IHC, IP; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200, IP:1:200-1:1000
Relevance	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. 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:22422861, PubMed:24814515). 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 (H3S10ph and H3S28ph, respectively). A positive feedback between GSG2 and AURKB contributes to CPC localization. AURKB is also required for kinetochore localization of BUB1 and SGO1. Phosphorylation of p53/TP53 negatively regulates its transcriptional activity. 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.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography

Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling; Cancer; Cell biology; Signal transduction
Gene Names	AURKB
Clone No.	4E5

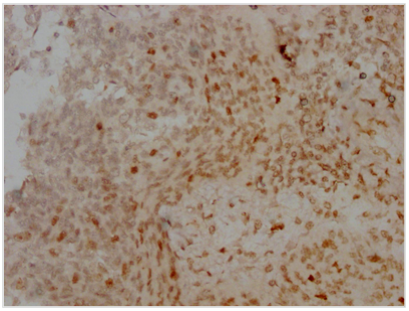
Image



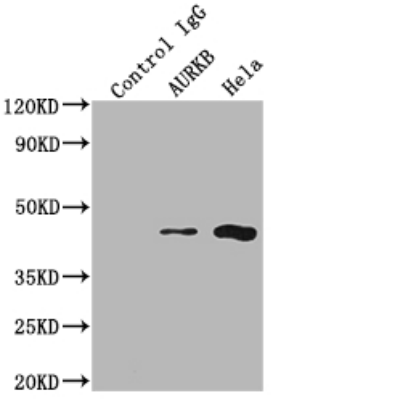
Western Blot
Positive WB detected in: Hela whole cell lysate, Jurkat whole cell lysate, 293 whole cell lysate, MCF-7 whole cell lysate, U251 whole cell lysate, A549 whole cell lysate, HepG2 whole cell lysate
All lanes: AURKB antibody at 1:2000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 40, 36, 17, 35 kDa
Observed band size: 40 kDa



IHC image of CSB-RA230110A0HU diluted at 1:100 and staining in paraffin-embedded human tonsil tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



IHC image of CSB-RA230110A0HU diluted at 1:100 and staining in paraffin-embedded human cervical cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



Immunoprecipitating AURKB in Hela whole cell lysate
Lane 1: Rabbit control IgG instead of CSB-RA230110A0HU in Hela whole cell lysate. For western blotting,a HRP-conjugated Protein G antibody was used as the secondary antibody (1/2000)
Lane 2: CSB-RA230110A0HU(2μg)+ Hela whole cell lysate(500μg)
Lane 3: Hela whole cell lysate (10μg)

Description

The AURKB recombinant monoclonal antibody is produced using protein technology and DNA recombinant technology. Initially, mice were immunized with a synthesized peptide taken from the human AURKB protein. After a certain duration, the spleen cells were removed from the mice under aseptic conditions, and total RNA was extracted from these cells. The RNA was then reverse-transcribed into cDNA, which was utilized as a template for PCR amplification of the AURKB antibody gene. The gene was then cloned into a vector and transfected into host cells for culture. The AURKB recombinant monoclonal antibody was purified from the supernatant of the cell culture by using affinity chromatography. The antibody's specificity was extensively verified, and it can be utilized in ELISA, WB, IHC, and IP experiments to detect the human AURKB protein.

The AURKB protein is a serine/threonine kinase that plays a critical role in mitosis. AURKB is involved in various stages of mitosis, including chromosome condensation, alignment, segregation, and cytokinesis. It also regulates cytokinesis by phosphorylating several proteins involved in cytokinesis, including MgcRacGAP, anillin, and myosin light chain. Dysregulation of AURKB can lead to abnormal cell division, chromosome missegregation, and aneuploidy, which can contribute to the development of cancer.