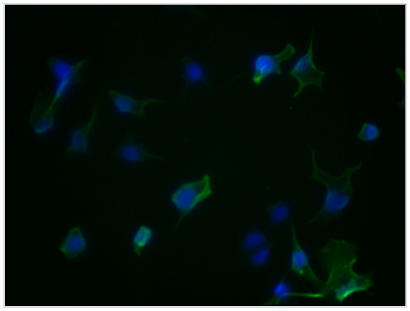
AURKA Recombinant Monoclonal Antibody

Product Code	CSB-RA223479A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	O14965
Immunogen	A synthesized peptide derived from human Aurora A
Species Reactivity	Human
Tested Applications	ELISA, IF; Recommended dilution: IF:1:20-1:200
Relevance	Mitotic serine/threonine kinase that contributes to the regulation of cell cycle progression. Associates with the centrosome and the spindle microtubules during mitosis and plays a critical role in various mitotic events including the establishment of mitotic spindle, centrosome duplication, centrosome separation as well as maturation, chromosomal alignment, spindle assembly checkpoint, and cytokinesis. Required for initial activation of CDK1 at centrosomes. Phosphorylates numerous target proteins, including ARHGEF2, BORA, BRCA1, CDC25B, DLGP5, HDAC6, KIF2A, LATS2, NDEL1, PARD3, PPP1R2, PLK1, RASSF1, TACC3, p53/TP53 and TPX2. Regulates KIF2A tubulin depolymerase activity. Required for normal axon formation. Plays a role in microtubule remodeling during neurite extension. Important for microtubule formation and/or stabilization. Also acts as a key regulatory component of the p53/TP53 pathway, and particularly the checkpoint-response pathways critical for oncogenic transformation of cells, by phosphorylating and stabilizing p53/TP53. Phosphorylates its own inhibitors, the protein phosphatase type 1 (PP1) isoforms, to inhibit their activity. Necessary for proper cilia disassembly prior to mitosis.
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	AURKA
Clone No.	1H8
Image	



Immunofluorescence staining of Hela Cells with CSB-RA223479A0HU at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% TritonX-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4?. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).

Description

The AURKA recombinant monoclonal antibody is created using protein and DNA recombinant technologies. The first step involves immunizing mice with a synthesized peptide derived from human AURKA. Next, spleen cells are removed under sterile conditions, and total RNA is extracted from the spleen cells. The cDNA obtained from RNA reverse transcription is then used as a template for PCR amplification of the AURKA antibody gene. The obtained AURKA antibody gene is then introduced into a vector and transfected into host cells for cultivation. Finally, the AURKA recombinant monoclonal antibody is purified from the cell culture supernatant using affinity chromatography. It undergoes rigorous verification and can be used for human AURKA protein detection in ELISA and IF experiments.

The AURKA protein is a serine/threonine kinase that plays an important role in cell division, specifically in the formation and regulation of the mitotic spindle. It is involved in centrosome maturation, separation of duplicated centrosomes, spindle assembly, chromosome alignment, and cytokinesis. AURKA activity is tightly regulated throughout the cell cycle by multiple mechanisms, including interactions with other proteins, phosphorylation, and localization to different cellular compartments. Dysregulation of AURKA activity has been implicated in various diseases, including cancer.