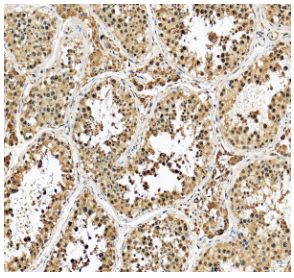
BUB1 Antibody / Mitotic Checkpoint Kinase Antibody (RQ6759)

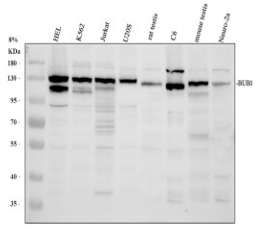
Catalog No.	Formulation	Size
RQ6759	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	O43683
Localization	Nuclear, cytoplasmic
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Direct ELISA: 0.1-0.5ug/ml
Limitations	This BUB1 Antibody / Mitotic Checkpoint Kinase Antibody is available for research use only.



BUB1 Antibody by IHC in human testis. Immunohistochemistry of FFPE human testis tissue using BUB1 Antibody at 2 ug/ml. The experiment evaluates BUB1 expression within testicular tissue, where mitotic and meiotic cell division contribute to germ cell development. Heat-induced epitope retrieval was performed using EDTA buffer, pH 8.0, followed by overnight primary antibody incubation at 4oC. This Mitotic Checkpoint Kinase Antibody recognizes a protein involved in kinetochore signaling, spindle checkpoint regulation, and chromosome segregation.



BUB1 Antibody by WB in human, rat, and mouse samples. Western blot analysis using BUB1 Antibody at 0.5 ug/ml. Lanes 1-4: human HEL, K562, Jurkat, and U2OS cell lysates; lanes 5-6: rat testis and C6 cell lysates; lanes 7-8: mouse testis and Neuro-2a cell lysates. Each lane contained 30 ug protein separated on an 8% SDS-PAGE gel under reducing conditions. An immunoreactive band is detected at approximately 130 kDa, compared with the predicted BUB1 molecular weight of 122 kDa. This Mitotic Checkpoint Kinase Antibody recognizes a serine/threonine kinase involved in spindle assembly checkpoint signaling.

Description

BUB1 Antibody recognizes BUB1, a serine/threonine protein kinase that plays a central role in the spindle assembly checkpoint (SAC) during mitosis. BUB1 helps ensure accurate chromosome segregation by coordinating checkpoint signaling at kinetochores and delaying anaphase until chromosomes are properly attached to spindle microtubules. The protein belongs to a conserved family of mitotic checkpoint regulators originally identified through studies of budding uninhibited by benzimidazoles. The Mitotic Checkpoint Kinase Antibody targets a protein involved in maintaining chromosomal stability during cell division.

The human BUB1 gene is located on chromosome 2q13 and encodes a protein of approximately 1,085 amino acids with a predicted molecular weight near 122 kDa. BUB1 contains an N-terminal region involved in kinetochore localization, regulatory domains that mediate interactions with checkpoint proteins, and a C-terminal serine/threonine kinase domain. Its recruitment to kinetochores depends on interactions with proteins including BUB3 and components of the KNL1 signaling platform. These interactions position BUB1 within the molecular machinery responsible for monitoring chromosome attachment.

BUB1 contributes to spindle checkpoint signaling by supporting the recruitment and organization of proteins involved in preventing premature anaphase onset. It also phosphorylates histone H2A at threonine 120, helping recruit shugoshin proteins that protect centromeric cohesion and support chromosome alignment. Through these activities, BUB1 coordinates kinetochore signaling, centromere organization, and chromosome segregation. The Mitotic Checkpoint Kinase Antibody is relevant to investigations of mitotic regulation and chromosome stability.

Abnormal BUB1 expression or activity can disrupt mitotic checkpoint function and contribute to chromosomal instability, a characteristic frequently observed in cancer. Altered BUB1 signaling has been investigated in multiple malignancies, although its biological effects depend on cellular context and the nature of checkpoint disruption. BUB1 is also studied in relation to aneuploidy, cell cycle progression, and the response of dividing cells to spindle damage. Understanding its regulatory functions provides insight into mechanisms that maintain genomic integrity.

Research involving BUB1 contributes to understanding kinetochore function, spindle assembly checkpoint signaling, chromosome segregation, and cancer-associated chromosomal instability. Its interactions with other mitotic regulators make it an important component of cell division research. NSJ Bioreagents offers antibodies targeting proteins involved in cell cycle control and signal transduction. A BUB1 Antibody provides a research tool for examining mitotic checkpoint regulation, kinetochore signaling, and mechanisms responsible for accurate chromosome segregation.

Explore our Signal Transduction Antibodies collection for additional antibodies targeting protein kinases, regulatory signaling proteins, and factors involved in cell cycle control.

Application Notes

Optimal dilution of the BUB1 Antibody / Mitotic Checkpoint Kinase Antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids E26-K1085) was used as the immunogen for the BUB1 antibody.

Storage

After reconstitution, the BUB1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

BUB1 Mitotic Checkpoint Serine Threonine Kinase antibody, BUB1B Homolog 1 antibody, Budding Uninhibited by

Benzimidazoles 1 antibody, BUB1 Kinase antibody, Spindle Assembly Checkpoint Kinase antibody, BUB1 Protein Kinase antibody

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