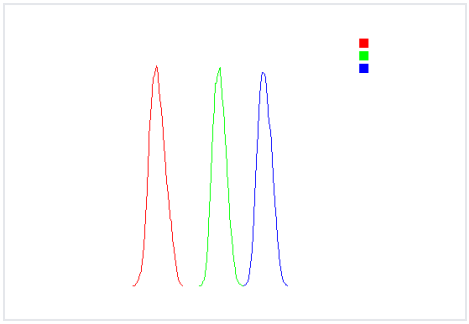
BUB1 Antibody – Rabbit Polyclonal

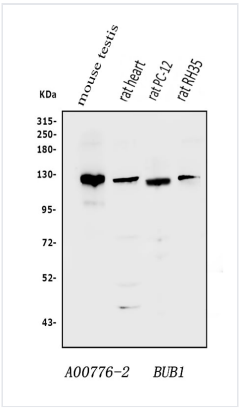
PRODUCT OVERVIEW

Product Name	Bub1, Polyclonal Antibody
Full Product Name	Anti-Bub1 Antibody
Product Gene Name	anti-Bub1 antibody
Product Synonym Names	Mitotic checkpoint serine/threonine-protein kinase BUB1; mBUB1; BUB1A; Bub1; BUB1, mitotic checkpoint serine/threonine kinase
Clonality	Polyclonal
Isotype	Rabbit IgG
Host	Rabbit
Species Reactivity	Mouse, Rat
Form/Format	Lyophilized. Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.
Purity/Purification	Immunogen affinity purified.
Specificity	Rabbit IgG polyclonal antibody for Bub1 detection.
Preparation and Storage	Store at -20 degree C for one year. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for a longer time. Avoid repeated freezing and thawing.
Molecular Weight	119,563 Da
3D Structure	ModBase 3D Structure for O08901
Immunogen	E Coli-derived mouse Bub1 recombinant protein (Position: D40-K257).
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Recommended Detection Systems	Recommended Detection Systems||Lab recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (MBS176460) for Western blot.
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Applications Tested/Suitable for anti-Bub1 antibody	Western Blot (WB), Flow Cytometry (FC/FACS/FCM), Direct ELISA (EIA)
Application Notes for anti-Bub1 antibody	WB: 0.1-0.25ug/ml|Mouse, Rat| FC/FACS/FCM: 1-3ug/1x106 cells|Mouse| Direct ELISA: 0.1-0.5ug/ml|Mouse|
Related Product Information for anti-Bub1 antibody	BUB1, also known as mitotic checkpoint serine/threonine kinase, is an enzyme that in humans is encoded by the BUB1 gene. It is mapped to 2q13. BUB1 is first identified in genetic screens of Saccharomyces cerevisiae. The protein is bound to kinetochores and plays a key role in the establishment of the mitotic spindle checkpoint and chromosome congression. The mitotic checkpoint kinase is evolutionary conserved in organisms as diverse as Saccharomyces cerevisiae and humans. Loss-of-function mutations or absence of BUB1 has been reported to result in aneuploidy, chromosomal instability (CIN) and premature senescence. The protein kinase BUB1 possesses versatile and distinct functions during the cell cycle, mainly in the SAC and chromosome alignment during metaphase.
Product References and Citations for anti-Bub1 antibody	1. "Entrez Gene: BUB1 BUB1 budding uninhibited by benzimidazoles 1 homolog (yeast)" 2. Cahill DP, Lengauer C, Yu J, Riggins GJ, Willson JK, Markowitz SD, Kinzler KW, Vogelstein B (March 1998). "Mutations of mitotic checkpoint genes in human cancers". Nature 392 (6673): 300-3. 3. Roberts BT, Farr KA, Hoyt MA (December 1994). "The Saccharomyces cerevisiae checkpoint gene BUB1 encodes a novel protein kinase". Mol. Cell. Biol. 14 (12): 8282-91.

Other Notes	Small volumes of anti-Bub1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for Bub1 purchase	MBS1753367 is an antibody targeting Bub1. Reactive in Mouse, Rat. Host: Rabbit.



Flow Cytometry (FC/FACS) of anti-Bub1 antibody
Figure 2. Flow Cytometry analysis of HEPA1-6 cells using anti-Bub1 antibody (MBS1753367).Overlay histogram showing HEPA1-6 cells stained with MBS1753367 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-Bub1 Antibody (MBS1753367,1?g/1x106 cells) for 30 min at 20 degree C. DyLight®488 conjugated goat anti-rabbit IgG (5-10?g/1x106 cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1?g/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western Blot (WB) of anti-Bub1 antibody
Figure 1. Western blot analysis of Bub1 using anti-Bub1 antibody (MBS1753367).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.Lane 1: mouse testis tissue lysatesLane 2: rat heart tissue lysatesLane 3: rat PC-12 wholel cell lysatesLane 4: rat RH35 whole cell lysates.After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1. 5 hour at RT. The membrane was incubated with rabbit anti-Bub1 antigen affinity purified polyclonal antibody (Catalog # MBS1753367) at 0. 25 ?g/mL overnight at 4 degree C, then washed with TBS-0. 1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1. 5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # MBS176460) with Tanon 5200 system. A specific band was detected for Bub1 at approximately 122KD. The expected band size for Bub1 is at 122KD.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Bub1. It may not necessarily be applicable to this product.

NCBI GI #	163937845
NCBI GeneID	12235
NCBI Accession #	NP_001106650.1
UniProt Primary Accession #	O08901
UniProt Secondary Accession #	O09007
UniProt Related Accession #	O08901
GenBank Nucleotide #	NM_001113179.1
NCBI Official Full Name	mitotic checkpoint serine/threonine-protein kinase BUB1 isoform 1
NCBI Official Synonym Full Names	budding uninhibited by benzimidazoles 1 homolog (S. cerevisiae)
NCBI Official Symbol	Bub1
NCBI Official Synonym Symbols	Bub1a; C80208; D2Xrf87; AL022991
UniProt Protein Name	Mitotic checkpoint serine/threonine-protein kinase BUB1
UniProt Synonym Protein Names	BUB1A
Protein Family	Checkpoint serine/threonine-protein kinase
UniProt Gene Name	Bub1

UniProt Synonym Gene Names	mBUB1
UniProt Entry Name	BUB1_MOUSE
NCBI Protein Information	mitotic checkpoint serine/threonine-protein kinase BUB1
UniProt Comments for Bub1	BUB1: a mitotic-checkpoint protein kinase of the BUB family. Autophosphorylated when the cells enters mitosis. Kinetochore localization is required for normal mitotic timing and checkpoint response to spindle damage. High expression in testis and thymus, less in colon, spleen, lung and small intestine. Expressed in fetal thymus, bone marrow, heart, liver, spleen and thymus. Expression is associated with cells/tissues with a high mitotic index. LOF mutations seen in two colon cancer cell lines exhibiting chromosomal instability, in several leukemias and lymphomas, and in a pancreatic cancer cell line. BUB1 functions in mitotic spindle assembly, and may cause chromosomal instability. In mouse BRCA2 knockouts, mutations in BUB1 and BUBR1 are frequently seen in the resulting tumors. BUB1 and BUBR1 are overexpressed, but not mutated, in many gastric cancers. Protein type: EC 2.7.11.1; Kinase, protein; Protein kinase, Other; Cell cycle regulation; Protein kinase, Ser/Thr (non-receptor); Other group; BUB family Cellular Component: kinetochore; nucleoplasm; membrane; cytoplasm; chromosome; nucleus; chromosome, pericentric region; condensed nuclear chromosome, pericentric region Molecular Function: transferase activity; protein serine/threonine kinase activity; transferase activity, transferring phosphorus-containing groups; nucleotide binding; kinase activity; ATP binding; protein kinase activity Biological Process: mitosis; embryonic development; cell division; apoptosis; regulation of chromosome segregation; regulation of sister chromatid cohesion; cell cycle; phosphorylation; protein amino acid phosphorylation; chromosome segregation
Research Articles on Bub1	**1.** It was shown that that Bub1 kinase activity integrates attachment error correction and mitotic checkpoint signaling by controlling the localization and activity of Aurora B kinase through phosphorylation of histone H2A at threonine 121.
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