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Bub3 Antibody

Catalog # ASC10541

Product Information

Application	WB, IF, ICC, E
Primary Accession	O43684
Other Accession	O43684, 7387554
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	37155
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Bub3 antibody can be used for detection of bub3 by Western blot at 0.5 - 1 g/mL. Antibody can also be used for immunocytochemistry starting at 10 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	9184
Other Names	Mitotic checkpoint protein BUB3, BUB3
Target/Specificity	BUB3;
Reconstitution & Storage	Bub3 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	Bub3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BUB3
Function	Has a dual function in spindle-assembly checkpoint signaling and in promoting the establishment of correct kinetochore-microtubule (K-MT) attachments. Promotes the formation of stable end-on bipolar attachments. Necessary for kinetochore localization of BUB1. Regulates chromosome segregation during oocyte meiosis. The BUB1/BUB3 complex plays a role in the inhibition of anaphase-promoting complex or cyclosome (APC/C) when spindle-assembly checkpoint is activated and inhibits the ubiquitin ligase activity of APC/C by phosphorylating its activator CDC20. This complex can also phosphorylate MAD1L1.

Cellular Location	Nucleus. Chromosome, centromere, kinetochore. Note=Starts to localize at kinetochores in prometaphase I (Pro-MI) stage and maintains the localization until the metaphase I- anaphase I (MI-AI) transition.

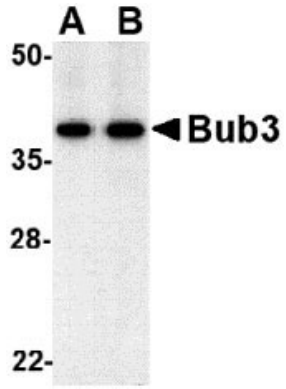
Background

Bub3 Antibody: The mitotic checkpoint protein Bub3 is involved with the essential spindle checkpoint pathway which operates during early embryogenesis. Bub3 is important during G2 and early mitosis stages, permitting entry into mitosis depending upon the assembly state of microtubules, thus preventing premature sister chromatid separation, mis-segregation and aneuploidy. Bub3 contains four WD repeat domains and is required for the kinetochore localization of Bub1, a related kinase that is necessary for spindle assembly checkpoint function. Bub1 is able to autophosphorylate and can catalyze the phosphorylation of Bub3. Both Bub1 and Bub3 are mutually dependent for function. Altered Bub expression levels may significantly impair mitotic checkpoint function and is associated with tumor cell proliferation.

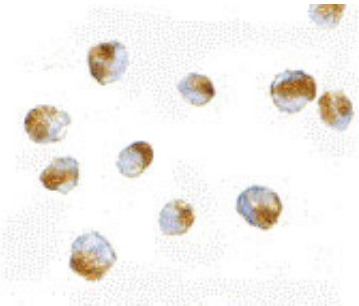
References

Kalitsis P, Earle E, Fowler KJ, et al. Bub3 gene disruption in mice reveals essential mitotic spindle checkpoint function during early embryogenesis. Genes Dev.2000; 14:2277-82.
Taylor SS, Ha E and McKeon F. The human homologue of Bub3 is required for kinetochore localization of Bub1 and a Mad3/Bub1-related protein kinase. J. Cell Biol.1998; 142:1-11.
Warren CD, Brady DM, Johnston RC, et al. Distinct chromosome segregation roles for spindle checkpoint proteins. Mol. Biol. Cell2002; 13: 3029-41.
Roberts BT, Farr KA and Hoyt MA. The Saccharomyces cerevisiae checkpoint gene BUB1 encodes a novel protein kinase. Mol. Cell. Biol.1994; 14:8282-91.

Images

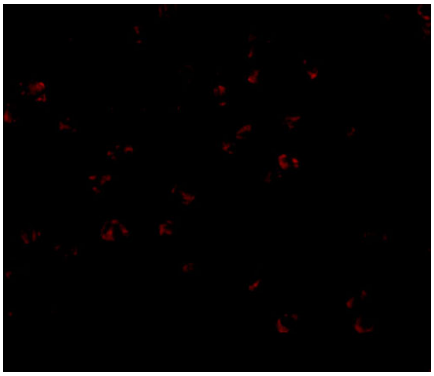


Western blot analysis of bub3 in Jurkat cell lysate with bub3 antibody at (A) 0.5 and (B) 1 µg/mL.



Immunocytochemistry of Bub3 in Jurkat cells with Bub3 antibody at 10 µg/mL.

Immunofluorescence of bub3 in Jurkat cells with bub3 antibody at 20 µg/mL.



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