abcam

ab54894

Anti-BubR1 antibody [2G5]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human BUB1B aa 1-150. The exact immunogen used to generate this antibody is proprietary information. Database link O60566
Clone number	2G5
Purity	Tissue culture supernatant
Light chain type	kappa
Purification notes	Purified from TCS.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information BUB1B

Function	Essential component of the mitotic checkpoint. Required for normal mitosis progression. The mitotic checkpoint delays anaphase until all chromosomes are properly attached to the mitotic spindle. One of its checkpoint functions is to inhibit the activity of the anaphase-promoting complex/cyclosome (APC/C) by blocking the binding of CDC20 to APC/C, independently of its kinase activity. The other is to monitor kinetochore activities that depend on the kinetochore motor CENPE. Required for kinetochore localization of CENPE. Negatively regulates PLK1 activity in interphase cells and suppresses centrosome amplification. Also implicated in triggering apoptosis in polyploid cells that exit aberrantly from mitotic arrest. May play a role for tumor suppression.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot

Storage information	Avoid freeze / thaw cycle

Notes

This product was changed from ascites to tissue culture supernatant on 15 May 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	BubR1 also known as BUB1B is an important protein in the mitotic checkpoint complex with an approximate mass of 120 kDa. BubR1 ensures proper chromosome alignment and segregation during cell division by inhibiting the anaphase-promoting complex/cyclosome (APC/C) until all chromosomes achieve proper attachment to the spindle. This protein localizes mainly to the kinetochores of chromosomes and is commonly expressed in dividing cells throughout the body.
Biological function summary	The spindle assembly checkpoint mechanism involves a complex in which BubR1 plays a central role. BubR1 along with other checkpoint proteins such as Bub1 and Mad2 forms a surveillance complex ensuring the correct attachment of microtubules to kinetochores. This action prevents premature progression to anaphase reducing the risk of aneuploidy and maintaining genomic stability.
Pathways	Mitotic checkpoint control critically involves BubR1 linking closely with several proteins including Mad2 and Cdc20. BubR1 integrates into the spindle checkpoint pathway a central player in regulating mitosis. Within this pathway BubR1 inhibits APC/CCdc20 activity preventing premature anaphase onset until all chromosomes are correctly oriented to divide. Interactions between these proteins ensure accurate mitotic progression and cellular replication fidelity.
Associated diseases and disorders	BubR1 function directly impacts cancer development and premature aging syndromes. Defective BubR1 activity can lead to chromosomal instability a characteristic of many cancers including colorectal cancer. Moreover reduced BubR1 expression links with premature aging syndromes such as mosaic variegated aneuploidy through its interaction with proteins such as p53 highlighting its role in genome integrity maintenance and cellular aging processes.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

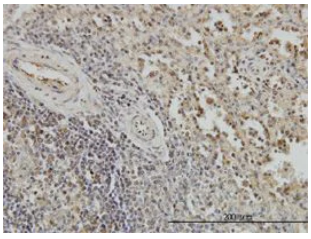
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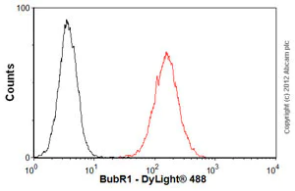
2 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BubR1 antibody [2G5] (ab54894)

BubR1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-BubR1 antibody

BubR1 antibody (ab54894) used in immunohistochemistry at 3ug/ml on formalin fixed and paraffin embedded human spleen.
This image was generated using the ascites version of the product.



Flow Cytometry - Anti-BubR1 antibody [2G5] (ab54894)

BubR1 Flow Cytometry staining using mouse Anti-BubR1 antibody

Overlay histogram showing HeLa cells stained with ab54894 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab54894, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.
This image was generated using the ascites version of the product.

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