abcam

Product datasheet

Anti-BubR1 antibody ab54894

★★★★☆ 2 Abreviews　6 References　画像数 5

製品の概要

製品名	Anti-BubR1 antibody
製品の詳細	Mouse monoclonal to BubR1
由来種	Mouse
アプリケーション	**適用あり:** WB, IHC-P, ICC/IF, Flow Cyt
種交差性	**交差種:** Mouse, Human
免疫原	Recombinant fragment, corresponding to amino acids 1-130 of Human BubR1

製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
バッファー	Preservative: None PBS, pH 7.2
精製度	Protein G purified
ポリ/モノ	モノクローナル
アイソタイプ	IgG1
軽鎖の種類	kappa

アプリケーション

Our Abpromise guarantee covers the use of **ab54894** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

アプリケーション	Abreviews	特記事項
WB		Use a concentration of 1 - 5 µg/ml. Predicted molecular weight: 120 kDa.
IHC-P		Use a concentration of 3 µg/ml.
ICC/IF	★★★★☆	Use at an assay dependent concentration.

アプリケーション	Abreviews	特記事項
Flow Cyt		Use 1µg for 10^6 cells. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

ターゲット情報

機能

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.

組織特異性

Highly expressed in thymus followed by spleen. Preferentially expressed in tissues with a high mitotic index.

関連疾患

Note=Defects in BUB1B are associated with tumor formation.
Defects in BUB1B are the cause of premature chromatid separation trait (PCS) [MIM:176430]. PCS consists of separate and splayed chromatids with discernible centromeres and involves all or most chromosomes of a metaphase. It is found in up to 2% of metaphases in cultured lymphocytes from approximately 40% of normal individuals. When PCS is present in 5% or more of cells, it is known as the heterozygous PCS trait and has no obvious phenotypic effect, although some have reported decreased fertility. Inheritance is autosomal dominant.
Defects in BUB1B are the cause of mosaic variegated aneuploidy syndrome (MVA) [MIM:257300]. MVA is a severe autosomal recessive developmental disorder characterized by mosaic aneuploidies, predominantly trisomies and monosomies, involving multiple different chromosomes and tissues. The proportion of aneuploid cells varies but is usually more than 25% and is substantially greater than in normal individuals. Affected individuals typically present with severe intrauterine growth retardation and microcephaly. Eye anomalies, mild dysmorphism, variable developmental delay, and a broad spectrum of additional congenital abnormalities and medical conditions may also occur. The risk of malignancy is high, with rhabdomyosarcoma, Wilms tumor and leukemia reported in several cases. MVA is caused by biallelic mutations in the BUB1B gene.

配列類似性

Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. BUB1 subfamily.
Contains 1 BUB1 N-terminal domain.
Contains 1 protein kinase domain.

ドメイン

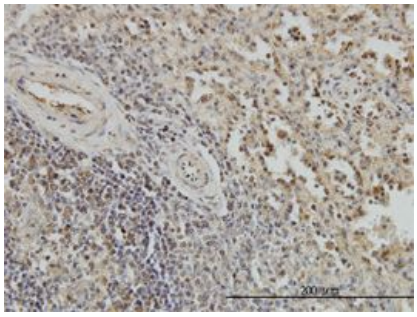
The D-box targets the protein for rapid degradation by ubiquitin-dependent proteolysis during the transition from mitosis to interphase.
The BUB1 N-terminal domain directs kinetochore localization and binding to BUB3.

翻訳後修飾

Proteolytically cleaved by caspase-3 in a cell cycle specific manner. The cleavage might be involved in the durability of the cell cycle delay. Caspase-3 cleavage is associated with abrogation of the mitotic checkpoint. The major site of cleavage is at Asp-610.
Acetylation at Lys-250 regulates its degradation and timing in anaphase entry.
Ubiquitinated. Degradated by the proteasome.
Sumoylated by SUMO2 and SUMO3. The sumoylation mediates the association with CENPE at

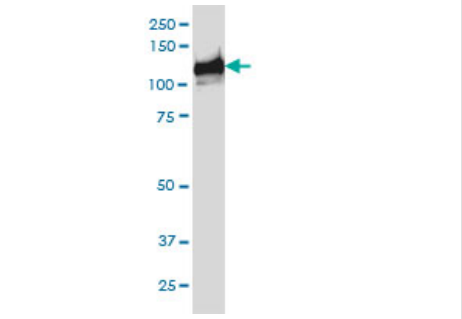
	the kinetochore. Autophosphorylated in vitro. Intramolecular autophosphorylation is stimulated by CENPE. Phosphorylated during mitosis and hyperphosphorylated in mitotically arrested cells. Phosphorylation at Ser-670 and Ser-1043 occurs at kinetochores upon mitotic entry with dephosphorylation at the onset of anaphase.
細胞内局在	Cytoplasm. Nucleus. Chromosome > centromere > kinetochore. Cytoplasm > cytoskeleton > centrosome. Cytoplasmic in interphase cells. Associates with the kinetochores in early prophase. Kinetochore localization requires BUB1, PLK1 and CASC5.

画像



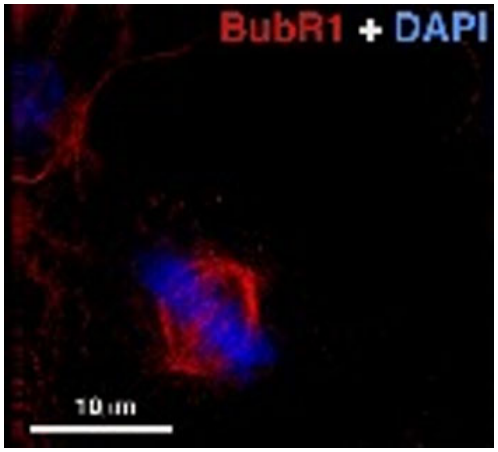
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BubR1 antibody (ab54894)

BubR1 antibody (ab54894) used in immunohistochemistry at 3ug/ml on formalin fixed and paraffin embedded human spleen.



Western blot - Anti-BubR1 antibody (ab54894)

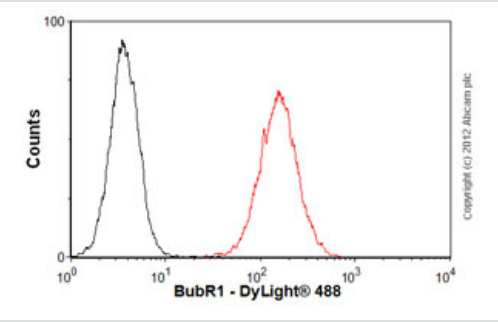
BubR1 antibody (ab54894) at 1ug/lane + HeLa cell lysate at 25ug/lane.



Immunocytochemistry/ Immunofluorescence - Anti-BubR1 antibody (ab54894)

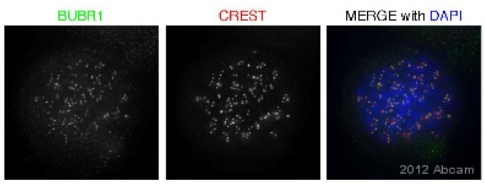
Image courtesy of Dr Anna Kaplan Tzuk Ramon by Abreview.

ab54894 staining BubR1 in murine neuronal progenior cells by Immunocytochemistry/ Immunofluorescence.
Cells were fixed in methanol, blocked using 0.01% BSA for 30 minutes and then incubated with ab54894 at a 1/100 dilution for 1 hour at 37°C. The secondary used was a rhodamine conjugated mouse monoclonal used at a 1/200 dilution.



Flow Cytometry - Anti-BubR1 antibody (ab54894)

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 22ºC. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22ºC. 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.



Immunocytochemistry/ Immunofluorescence - Anti-BubR1 antibody (ab54894)

Immunofluorescence of nocodazole treated HeLa cells with ab54894 staining BubR1 (green). CREST was used to mark centromeres (red) and the DNA is stained with DAPI (blue).

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