abcam

ab18217

Anti-Cdc20 antibody [BA8]

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human Cell division cycle protein 20 homolog. The exact immunogen used to generate this antibody is proprietary information. Database link Q12834
Clone number	BA8
Purification technique	Affinity purification Protein A/G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Target data

See full target information Cell division cycle protein 20 homolog

Function	Substrate-specific adapter of the anaphase promoting complex/cyclosome (APC/C) complex that confers substrate specificity by binding to substrates and targeting them to the APC/C complex for ubiquitination and degradation (PubMed:9734353, PubMed:27030811, PubMed:29343641). Recognizes and binds the destruction box (D box) on protein substrates (PubMed:29343641). Involved in the metaphase/anaphase transition of cell cycle (PubMed:32666501). Is regulated by MAD2L1: in metaphase the MAD2L1-CDC20-APC/C ternary complex is inactive and in anaphase the CDC20-APC/C binary complex is active in degrading substrates (PubMed:9811605, PubMed:9637688). The CDC20-APC/C complex positively regulates the formation of synaptic vesicle clustering at active zone to the presynaptic membrane in postmitotic neurons (By similarity). CDC20-APC/C-induced degradation of NEUROD2 induces presynaptic differentiation (By similarity). The CDC20-APC/C complex promotes proper dilation formation and radial migration by degrading CCDC41 (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
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

Supplementary info

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

Activity summary	Cdc20 also known as cell division cycle 20 is an important regulatory protein in the cell cycle. It plays an essential role in the anaphase-promoting complex/cyclosome (APC/C) a large ubiquitin ligase complex important for the progression of the cell cycle. Cdc20 is expressed in various tissues acting as a cell cycle regulator during mitosis. It has a molecular weight of approximately 55 kDa. The Cdc20 protein ensures the timely degradation of key mitotic inhibitors facilitating proper chromosome segregation and mitotic exit by tagging these inhibitors for proteasomal degradation.

Biological function summary	Cdc20 acts as an activator of the APC/C complex regulating the transition from metaphase to anaphase during cell division. This transition depends on the degradation of securin and cyclins ensuring correct chromosome separation and cell cycle progression. By forming a complex with APC/C Cdc20 functions to target proteins for destruction modulating cell division dynamically. Its activity ensures that chromosomes are correctly aligned and segregated preventing errors during cell division that may lead to genomic instability.
Pathways	Cdc20 integrates itself into the spindle assembly checkpoint (SAC) and the mitotic exit network (MEN). These pathways monitor chromosome alignment and ensure that cells do not proceed to anaphase until all chromosomes are properly attached to the spindle apparatus. SAC utilizes Cdc20 to regulate its inhibitory role until chromosome alignment is confirmed after which Cdc20 activates APC/C to drive anaphase onset. Moreover proteins such as BubR1 interact with Cdc20 within the SAC to inhibit premature activation of APC/C while conditions are not optimal.
Associated diseases and disorders	Cdc20 has significant connections with cancer and chromosomal instability syndromes. Overexpression or malfunction of Cdc20 often links with various cancers such as colorectal cancer where it drives an uncontrolled cell division rate and contributes to tumorigenesis. Additionally the improper regulation of Cdc20 can impact proteins like Mad2 disrupting the spindle checkpoint and leading to aneuploidy. This disruption often ties to chromosomal instability observed in cancerous cells highlighting its role as a potential target for therapeutic intervention.

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

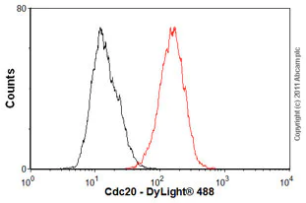
We do not recommend this combination. It is not covered by our product promise.

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1 product image



Flow Cytometry - Anti-Cdc20 antibody [BA8] (ab18217)

Cdc20 Flow Cytometry staining using mouse Anti-Cdc20 antibody

Overlay histogram showing LoVo cells stained with ab18217 (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 (ab18217, 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 IgG2a [ICIGG2A] (ab91361, 1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.

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