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Anti-CDC20 Antibody

Catalog # AP59505

Product Information

Application	WB, IHC, IF/IC
Primary Accession	Q12834
Reactivity	Human, Mouse, Rat, Pig, Mk
Host	Rabbit
Clonality	Polyclonal
Calculated MW	54723

Additional Information

Gene ID	991
Other Names	Cell division cycle protein 20 homolog; p55CDC
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human CDC20. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000), IH (1/100 - 1/200) IHC~~1:100~500 IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

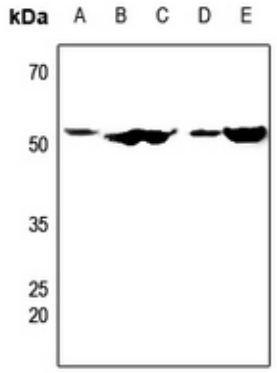
Name	CDC20
Function	Substrate-specific adapter and activator of the anaphase promoting complex/cyclosome (APC/C) that confers substrate specificity by binding to substrates and targeting them to the APC/C for ubiquitination and degradation (PubMed:9734353, PubMed:27030811, PubMed:29343641, PubMed:27120157, PubMed:27509861). Essential for activating APC/C in the metaphase/anaphase transition of the cell cycle, targeting the degradation of cyclin B and securin (PubMed:27120157, PubMed:27509861, PubMed:32666501). Recognizes and binds the destruction box (D box), KEB box and ABBA motifs on protein substrates (PubMed:29343641, PubMed:27509861). 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). Component of the mitotic checkpoint complex (MCC), which inhibits APC/C and delays chromosome

segregation until all chromosomes are properly attached to the mitotic spindle (PubMed:27509861). The MCC, which consists of CDC20, MAD2L1/MAD2, BUB1B/BUBR1 and BUB3, is a key player of the spindle assembly checkpoint (PubMed:27509861). The MCC-bound APC/C complex is inactive and this delays the metaphase/anaphase transition (PubMed:9811605, PubMed:9637688, PubMed:27509861). When the spindle assembly checkpoint is silenced, the MCC-APC/C complex recruits the E2 enzyme UBCH10 and triggers the auto-ubiquitination of CDC20 in the MCC, thereby reactivating APC/C for transition into anaphase (PubMed:27509861).

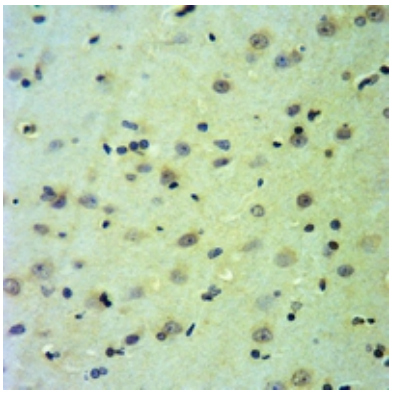
Cellular Location

Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Chromosome, centromere, kinetochore. Cytoplasm, cytoskeleton, spindle pole

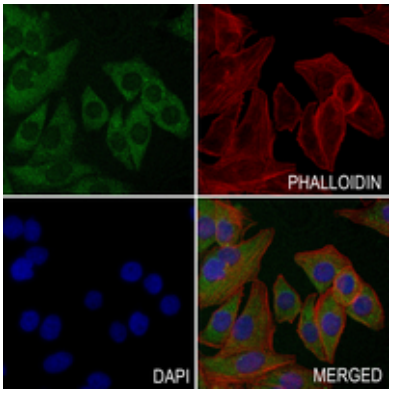
Images



Western blot analysis of CDC20 expression in Hela (A), DLD (B), LOVO (C), mouse spleen (D), rat spleen (E) whole cell lysates. (Predicted band size: 54 kD; Observed band size: 54 kD)



Immunohistochemical analysis of CDC20 staining in rat brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of CDC20 staining in MCF7 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.