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Cdc20 (Cell Division Cycle Protein 20) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone CDC20/1102]
Catalog # AH12829

Product Information

Application	IHC, IF, FC
Primary Accession	Q12834
Other Accession	991, 524947
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1, kappa
Clone Names	CDC20/1102
Calculated MW	54723

Additional Information

Gene ID	991
Other Names	Cell division cycle protein 20 homolog, p55CDC, CDC20
Application Note	IHC~~1:100~500 IF~~1:50~200 FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Cdc20 (Cell Division Cycle Protein 20) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

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

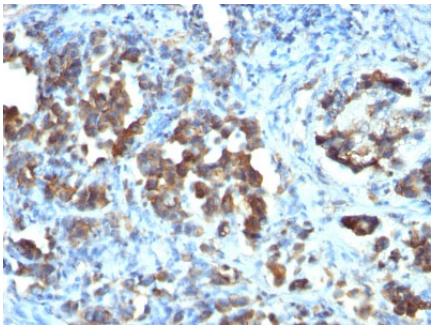
Background

Cyclins, regulatory subunits, which associate with kinases, control many of the important steps in cell cycle progression. The Cdc2 protein kinase (p34Cdc2) exhibits protein kinase activity in vitro and exists in a complex with both cyclin B and a protein homologous to p13SUC1. Cdc2 kinase is the active subunit of the M phase promoting factor (MPF) and the M phase-specific Histone H1 kinase. The p34Cdc2/cyclin B complex is required for the G2 to M transition. An additional cell cycle-dependent protein kinase, termed p55cdc, exhibits a high degree of homology with the S. cerevisiae proteins Cdc20 and Cdc4. The p55cdc transcript is readily detectable in a variety of cultured cell lines in growth phase, but disappears when cell growth is chemically arrested.

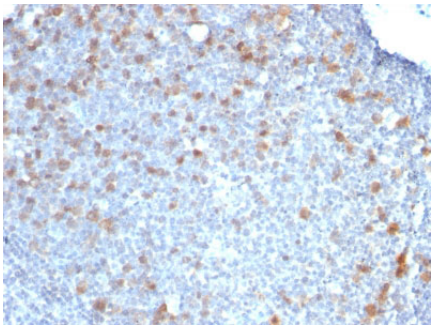
References

Sironi L et al. 2001. EMBO J. 20(22):6371-82.

Images



Formalin-fixed, paraffin-embedded human Gastric Carcinoma stained with CDC20 Monoclonal Antibody (CDC20/1102)



Formalin-fixed, paraffin-embedded human Tonsil stained with CDC20 Monoclonal Antibody (CDC20/1102)

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