

Product datasheet for **TA327015S**

CDC20 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	ICC/IF, WB
Recommended Dilution:	WB 1:500 - 1:2000;IF 1:50- 1:200
Reactivity:	Human, Mouse
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Recombinant protein of human CDC20
Formulation:	Store at -20C or -80C. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3
Concentration:	lot specific
Purification:	Affinity purification
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	cell division cycle 20
Database Link:	NP_001246 Entrez Gene 107995 Mouse Entrez Gene 991 Human Q12834



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Background:

The cell division cycle demands accuracy to avoid the accumulation of genetic damage. This process is controlled by molecular circuits called "checkpoints" that are common to all eukaryotic cells. Checkpoints monitor DNA integrity and cell growth prior to replication and division at the G1/S and G2/M transitions, respectively. The cdc2-cyclin B kinase is pivotal in regulating the G2/M transition. Cdc2 is phosphorylated at Thr14 and Tyr15 during G2-phase by the kinases Wee1 and Myt1, rendering it inactive. The tumor suppressor protein retinoblastoma (Rb) controls progression through the late G1 restriction point (R) and is a major regulator of the G1/S transition. During early and mid G1-phase, Rb binds to and represses the transcription factor E2F. The phosphorylation of Rb late in G1-phase by CDKs induces Rb to dissociate from E2F, permitting the transcription of S-phase-promoting genes. In vitro, Rb can be phosphorylated at multiple sites by cdc2, cdk2, and cdk4/6. DNA damage triggers both the G2/M and the G1/S checkpoints. DNA damage activates the DNA-PK/ATM/ATR kinases, which phosphorylate Chk at Ser345, Chk2 at Thr68 and p53. The Chk kinases inactivate cdc25 via phosphorylation at Ser216, blocking the activation of cdc2. CDC20 binds to and activates the anaphase-promoting complex (APC) during mitosis and G1 phase of the cell cycle. Moreover, CDC20 is necessary for ubiquitin ligase activity of the APC/cyclosome (APC/C). In metaphase MAD2L1 inactivates the CDC20-APC/C complex, while in anaphase this inhibition is lost and CDC20-APC/C degrades its substrates. p53 and p21 suppress expression of CDC20 upon genotoxic stresses and ectopic introduction of p53. siRNA mediated knock-down of CDC20 in cancer cells leads to attenuated cell growth and induces G(2)/M arrest, suggesting that CDC20 is a possible therapeutic target of cancer. Organization of neuronal circuits requires presynaptic axonal differentiatio.

Synonyms:

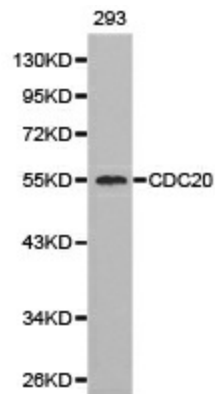
bA276H19.3; CDC20A; p55CDC

Protein Families:

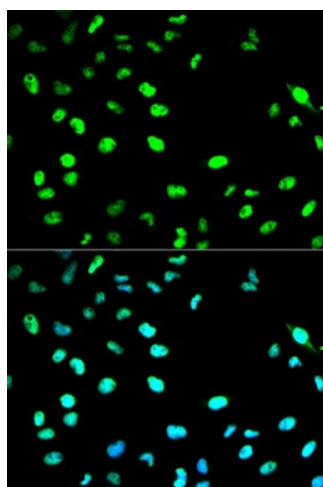
Druggable Genome

Protein Pathways:

Cell cycle, Oocyte meiosis, Ubiquitin mediated proteolysis

Product images:

Western blot analysis of 293 cell lysate using CDC20 antibody.



Immunofluorescence analysis of HeLa cell using CDC20 antibody. Blue: DAPI for nuclear staining.