CDC20 Conjugated Antibody

Catalog No: #C32246

Package Size: #C32246-AF350 100ul #C32246-AF405 100ul #C32246-AF488 100ul #C32246-AF555 100ul #C32246-AF594 100ul #C32246-AF647 100ul #C32246-AF680 100ul #C32246-AF750 100ul #C32246-Biotin 100ul

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Description

Product Name	CDC20 Conjugated Antibody
Host Species	Rabbit
Clonality	Polyclonal
Species Reactivity	Hu Ms Rt
Specificity	The antibody detects endogenous level of total CDC20 protein.
Immunogen Description	Recombinant protein of human CDC20.
Conjugates	Biotin AF350 AF405 AF488 AF555 AF594 AF647 AF680 AF750
Other Names	CDC20;CDC20A;MGC102824;bA276H19.3;p55CDC
Accession No.	Swiss-Prot#:Q12834NCBI Gene ID:991
Uniprot	Q12834
GeneID	991;
Excitation Emission	AF350: 346nm/442nm AF405: 401nm/421nm AF488: 493nm/519nm AF555: 555nm/565nm AF594: 591nm/614nm AF647: 651nm/667nm AF680: 679nm/702nm AF750: 749nm/775nm
Calculated MW	55
Formulation	0.01M Sodium Phosphate, 0.25M NaCl, pH 7.6, 5mg/ml Bovine Serum Albumin, 0.02% Sodium Azide
Storage	Store at 4°C in dark for 6 months

Application Details

Suggested Dilution:

AF350 conjugated: most applications: 1: 50 - 1: 250

AF405 conjugated: most applications: 1: 50 - 1: 250

AF488 conjugated: most applications: 1: 50 - 1: 250

AF555 conjugated: most applications: 1: 50 - 1: 250

AF594 conjugated: most applications: 1: 50 - 1: 250

AF647 conjugated: most applications: 1: 50 - 1: 250

AF680 conjugated: most applications: 1: 50 - 1: 250

AF750 conjugated: most applications: 1: 50 - 1: 250

Biotin conjugated: working with enzyme-conjugated streptavidin, most applications: 1: 50 - 1: 1,000

Product Description

Antibodies were purified by affinity purification using immunogen.

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 (1). 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 (2,3). 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 (4). During early and mid G1-phase, Rb binds to and represses the transcription factor E2F (5). 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 (6-8). 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 (9), Chk2 at Thr68 (10) and p53 (11). 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 (12). 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 (13). 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 (14). Organization of neuronal circuits requires presynaptic axonal differentiation and synapse formation. CDC20-APC regulates presynaptic differentiation in postmitotic neurons by triggering the required degradation of the transcription factor NeuroD2 (15)

Note: This product is for in vitro research use only