

Cyclin F (D9K2U) Rabbit mAb

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Applications: W	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 90	Source/Isotype: Rabbit IgG	UniProt ID: #P41002	Entrez-Gene Id: 899
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Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Cyclin F (D9K2U) Rabbit mAb recognizes endogenous levels of total Cyclin F protein. This antibody recognizes an unidentified protein of 80 kDa by western blot.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro665 of human Cyclin F protein.

Background

Cyclin F is the founding member of the F-box protein family, present in all eukaryotic cells. F-box proteins are components of the Skp1-Cullin-F-box (SCF) ubiquitin ligase complex. The substrate specificity of the SCF complex is determined by the interchangeable F-box proteins, which act as adaptors by associating with phosphorylated substrate proteins and recruiting them to the SCF core (1).

Cyclin F contains a cyclin box domain in addition to an F-box domain, but does not regulate the activity of cyclin dependent kinases. Cyclin F expression does oscillate during the cell cycle, however, peaking in G2 phase (2).

Cyclin F interacts with the centrosomal protein CP110, which plays critical roles centriole duplication and spindle formation. Cyclin F-mediated degradation of CP110 in G2 phase is required for normal progression into mitosis (3). In response to ionizing radiation, which causes DNA double strand breaks, Cyclin F interacts with B-Myb, preventing cyclin A-dependent phosphorylation of B-Myb, and delaying progression into mitosis. This G2 phase arrest allows the cell to respond to the DNA damage-induced G2/M phase checkpoint (4). Cyclin F also controls the stability of the ribonucleotide reductase M2 subunit, RRM2, which functions in maintaining the levels of dNTPs available in the cell for DNA synthesis and repair, in response to genotoxic stress (5). Researchers have implicated cyclin F as a prognostic marker in hepatocellular carcinoma (HCC) (6).

Background References

1. Reed, S.I. (2003) *Nat Rev Mol Cell Biol* 4, 855-64.
2. D'Angiolella, V. et al. (2013) *Trends Cell Biol* 23, 135-40.
3. D'Angiolella, V. et al. (2010) *Nature* 466, 138-42.
4. Klein, D.K. et al. (2015) *Nat Commun* 6, 5800.
5. D'Angiolella, V. et al. (2012) *Cell* 149, 1023-34.
6. Fu, J. et al. (2013) *Cancer Sci* 104, 508-15.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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