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#81045

Cyclin F (D9K2U) Rabbit mAb



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Entrez-Gene ID #899
UniProt ID #P41002

rev. 07/14/16

For Research Use Only. Not For Use In Diagnostic Procedures.

Applications W Endogenous	Species Cross-Reactivity* H	Molecular Wt. 90 kDa	Isotype Rabbit IgG**
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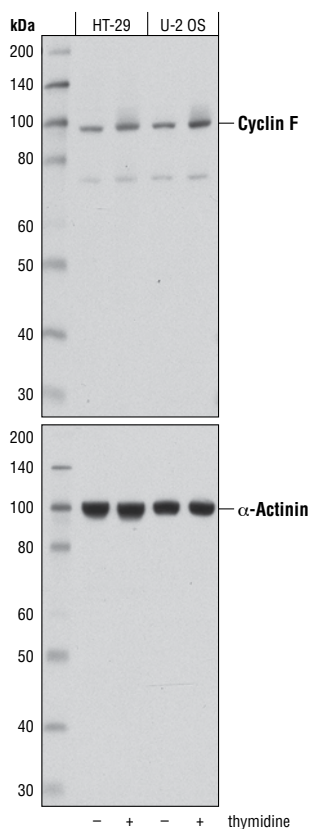
Background: Cyclin F is the founding member of the F-box protein family, present in all eukaryotic cells. F-box proteins are components of the Skp1-Cullin-F-box (SCF) ubiquitin ligase complex. The substrate specificity of the SCF complex is determined by the interchangeable F-box proteins, which act 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).

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.



Western blot analysis of extracts from HT-29 and U-2 OS cells, untreated (-) or synchronized by double thymidine block followed by an eight hour release into complete medium (+), using Cyclin F (D9K2U) Rabbit mAb (upper) or α -Actinin (D6F6) Rabbit mAb #6487 (lower).

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

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com

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.

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

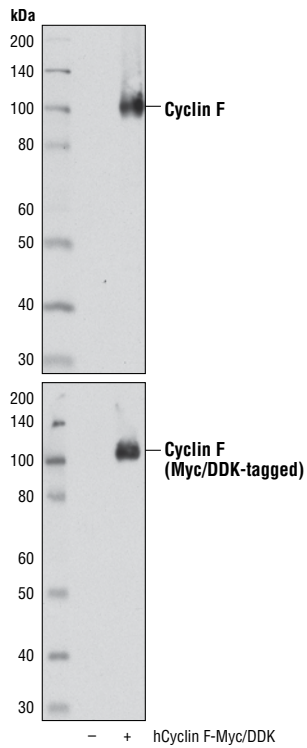
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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig S—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Western blot analysis of extracts from 293T cells, mock transfected (-) or transfected with Myc/DDK-tagged full-length human Cyclin F (hCyclin F-Myc/DDK; +), using Cyclin F (D9K2U) Rabbit mAb (upper) or Myc-Tag (71D10) Rabbit mAb #2278 (lower).

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