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-20°C

# Cyclin D3 (DCS22) Mouse mAb

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#2936

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UniProt ID #P30281

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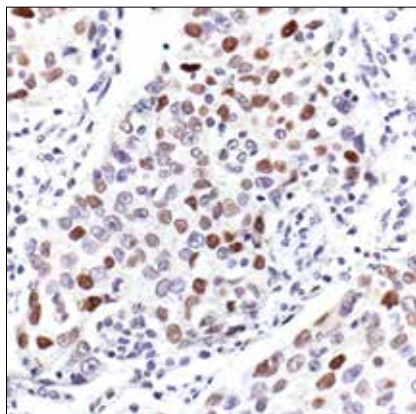
**For Research Use Only. Not For Use In Diagnostic Procedures.****Applications**  
W, IHC-P  
Endogenous**Species Cross-Reactivity\***  
H, M, R**Molecular Wt.**  
31 kDa**Isotype**  
Mouse IgG1\*\*

**Background:** Activity of the cyclin-dependent kinases CDK4 and CDK6 is regulated by T-loop phosphorylation, by the abundance of their cyclin partners (the D-type cyclins), and by association with CDK inhibitors of the Cip/Kip or INK family of proteins (1). The inactive ternary complex of cyclin D/CDK4 and p27 Kip1 requires extracellular mitogenic stimuli for the release and degradation of p27 concomitant with a rise in cyclin D levels to affect progression through the restriction point and Rb-dependent entry into S-phase (2). The active complex of cyclin D/CDK4 targets the retinoblastoma protein for phosphorylation, allowing the release of E2F transcription factors that activate G1/S-phase gene expression (3). Levels of cyclin D protein drop upon withdrawal of growth factors through downregulation of protein expression and phosphorylation-dependent degradation (4).

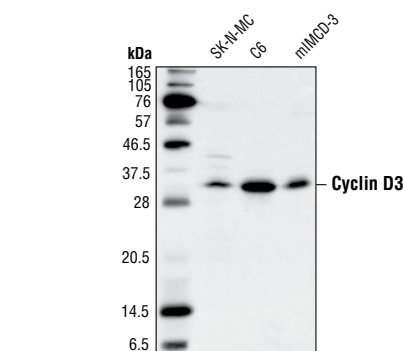
Although the D-type cyclins are not fully redundant, cyclin D3, like D1, plays a prominent role in differentiation and proliferation, which correlates with higher expression levels of cyclin D3 in various cancers (5).

**Specificity/Sensitivity:** Cyclin D3 (DCS22) Mouse mAb detects endogenous levels of total cyclin D3 protein. The antibody does not cross-react with cyclin D1 or cyclin D2.

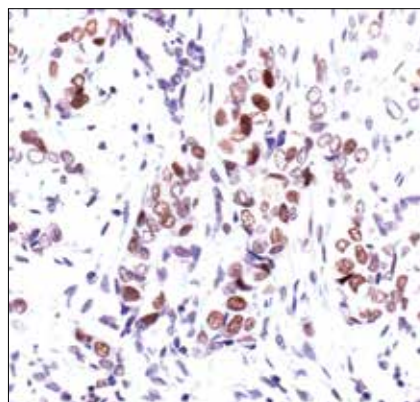
**Source/Purification:** Monoclonal antibody is produced by immunizing animals with recombinant human cyclin D3 corresponding to residues 241-260.



◀ Immunohistochemical analysis of paraffin-embedded human lung carcinoma, using Cyclin D3 (DCS22) Mouse mAb.



Western blot analysis of extracts from SK-N-MC, C6 and IMCD3 cells, using Cyclin D3 (DCS22) Mouse mAb.



Immunohistochemical analysis of paraffin-embedded human breast carcinoma, using Cyclin D3 (DCS22) Mouse mAb.

**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.

\*Species cross-reactivity is determined by western blot.

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

**Recommended Antibody Dilutions:**

Western blotting	1:2000
Immunohistochemistry (Paraffin)	1:1600†
Unmasking buffer:	Citrate
Antibody diluent:	SignalStain® Antibody Diluent #8112
Detection reagent:	SignalStain® Boost (HRP, Mouse) #8125

†Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.

**For product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://www.cellsignal.com)**

**Background References:**

- (1) Hirai, H. et al. (1995) *Mol. Cell. Biol.* 15, 2672-2681.
- (2) Sherr, C.J. (1996) *Science* 274, 1672-1677.
- (3) Lukas, J. et al. (1996) *Mol. Cell. Biol.* 16, 6917-6925.
- (4) Diehl, J.A. et al. (1997) *Genes Dev.* 11, 957-972.
- (5) Bartkova, J. et al. (1998) *Oncogene* 17, 1027-37.

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**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 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 Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.