Technical Data Sheet

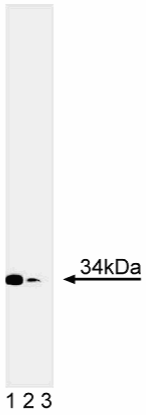
Purified Mouse Anti-Human Cyclin D3

Product Information

Material Number:	**554195**
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	G107-565
Immunogen:	Recombinant full-length human cyclin D3
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human
Target MW:	31/34 kDa doublet
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

Cyclins and cyclin-dependent kinases (cdks) are evolutionarily conserved proteins that are essential for cell-cycle control in eukaryotes. Cyclins (regulatory subunits) bind to cdks (catalytic subunits) to form complexes that regulate the progression of the cell cycle. The main cyclin-cdks complexes formed in vertebrate cells are cyclin D-cdk4 (G0/G1), cyclin E-cdk2 (G1/S), cyclin A-cdk2 (S) and cyclin B1-cdk1 (G2/M). These complexes are regulated by activating and inhibitory phosphorylation events, as well as by interactions with small proteins that bind to cyclins, cdks, or cyclin-cdk complexes, e.g., p21 and p27Kip1. Specific substrates for cdk-cyclin complexes include nuclear lamins, histones, oncogenes (c-src, c-abl, SV40 large TAg), tumor suppressor genes (e.g., retinoblastoma protein [Rb] and p53), nucleolin, RNA polymerase II and others. It is thought that D-type cyclins are involved in regulating the passage of mammalian cells through G1. The reduced molecular weights of D-type cyclins are as follows: cyclin D1 (36 kDa), cyclin D2 (35 kDa) and cyclin D3 [31 and 34 kDa (doublet)]. G107-565 recognizes human cyclin D3. It does not cross-react with human cyclins D1 or D2.



Western blot analysis of cyclin D3. *Lysate from K-562 human leukemia cells was probed with anti-cyclin D3 (clone G107-565, Cat. No. 554195) at concentrations of 1.0, (lane 1), 0.1 (lane 2), and 0.01 µg/ml (lane 3). Cyclin D3 is identified as a band of ~34 kDa.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

Application Notes

Application

Western blot	Routinely Tested
Flow cytometry	Tested During Development
Immunofluorescence	Reported
Immunoprecipitation	Reported

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Recommended Assay Procedure:

D-type cyclins are differentially expressed in distinct cell types. Cell types which have been documented to express high levels of a given D-type cyclin are suggested as positive controls. WI-38 human diploid fibroblasts (ATCC CCL-75) and U-118 (ATCC HTB-15) are suggested as positive controls for detecting cyclin D1 and D3. Primary human peripheral blood T lymphocytes stimulated with phytohemagglutinin (PHA) are also good positive controls for detecting cyclin D3. The conjugated format of the clone (Cat. No. 554111) is recommended for use in staining and flow cytometry.

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

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Gong J, Traganos F, Darzynkiewicz Z. Threshold expression of cyclin E but not D type cyclins characterizes normal and tumour cells entering S phase. *Cell Prolif.* 1995; 28(6):337-346.(Clone-specific: Flow cytometry, Western blot)

Meyerson M, Harlow E. Identification of G1 kinase activity for cdk6, a novel cyclin D partner. *Mol Cell Biol.* 1994; 14(3):2077-2086.(Clone-specific: Western blot)

Rao SS, Kohtz DS. Positive and negative regulation of D-type cyclin expression in skeletal myoblasts by basic fibroblast growth factor and transforming growth factor beta. A role for cyclin D1 in control of myoblast differentiation. *J Biol Chem.* 1995; 270(8):4093-4100.(Clone-specific: Immunofluorescence, Western blot)

Shapiro GI, Edwards CD, Kobzik L, et al. Reciprocal Rb inactivation and p16INK4 expression in primary lung cancers and cell lines. *Cancer Res.* 1995; 55(3):505-509.(Clone-specific: Western blot)

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