

TECHNICAL DATA SHEET

CyFlow™ Cyclin D1 Purified Anti-Hu/Rt; Clone CD1.1

REF CV029559

**For Research Use Only.
Not for use in diagnostic or therapeutic procedures.**

Specifications

Antigen	Cyclin D1
Alternative Names	—
Clone	CD1.1
Clonality	monoclonal
Format	Purified
Host / Isotype	Mouse / IgG1
Species Reactivity	Human Rat
Negative Species Reactivity	—
Quantity [Concentration]	0.1 mg [1 mg/ml]
Immunogen	Purified cyclin D1 protein

Specificity

The mouse monoclonal antibody CD1.1 recognizes cyclin D1, an ubiquitously expressed 33 kDa protein that migrates as a 36 kDa band under reducing SDS-PAGE conditions.

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Application

Based on published sources, this antibody is suitable for the following applications:

- Flow cytometry
- Immunoprecipitation
- Western blot
- Immunohistochemistry
- Immunocytochemistry
- Enzyme-linked immunosorbent assay

Storage Buffer

The reagent is provided in stabilizing phosphate buffered saline (PBS) solution, pH \approx 7.4, containing 0.1% (w/v) sodium azide.

Storage and Stability

Storage	Avoid prolonged exposure to light. Store in the dark at 2-8°C. Do not freeze.
Stability	Do not use after expiration date stamped on vial label.

Background Information

Cyclin D1 (PRAD1, Bcl-1) is a cytoplasmic and nuclear protein, which is synthesized during G1 phase and assembles with either cyclin-dependent kinase 4 (CDK4) or CDK6 in response to growth factor stimulation. D-type cyclin-CDK complexes act to inactivate the growth-suppressive function of the Rb protein through its phosphorylation, and titrate CDK inhibitors such as p21Cip1 and p27Kip1. Whereas during G1 phase cyclin D1 accumulates in the nucleus, it translocates into the cytoplasm during S phase. Without growth factor-mediated stimulation cyclin D1 is unstable, and undergoes ubiquitin-mediated degradation, which is triggered by its phosphorylation. Cyclin D1 destabilization participates in G1/S phase arrest.

References

- Diehl JA, Zindy F, Sherr CJ: Inhibition of cyclin D1 phosphorylation on threonine-286 prevents its rapid degradation via the ubiquitin-proteasome pathway. *Genes Dev.* 1997 Apr 15; 11(8):957-72. < PMID: 9136925 >

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- Diehl JA, Cheng M, Roussel MF, Sherr CJ: Glycogen synthase kinase-3beta regulates cyclin D1 proteolysis and subcellular localization. Genes Dev. 1998 Nov 15; 12(22):3499-511. < PMID: 9832503 >
- Yang W, Zhang Y, Li Y, Wu Z, Zhu D: Myostatin induces cyclin D1 degradation to cause cell cycle arrest through a phosphatidylinositol 3-kinase/AKT/GSK-3 beta pathway and is antagonized by insulin-like growth factor 1. J Biol Chem. 2007 Feb 9; 282(6):3799-808. < PMID: 17130121 >
- Mukherji A, Janbandhu VC, Kumar V: GSK-3beta-dependent destabilization of cyclin D1 mediates replicational stress-induced arrest of cell cycle. FEBS Lett. 2008 Mar 6; < PMID: 23416295 >

The Safety Data Sheet for this product is available at www.sysmex-partec.com/services.

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