Human/Mouse Cyclin D1/D2 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF4196

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse Cyclin D1/D2 in Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Cyclin D1 Met1-Ile295 Accession # P24385
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

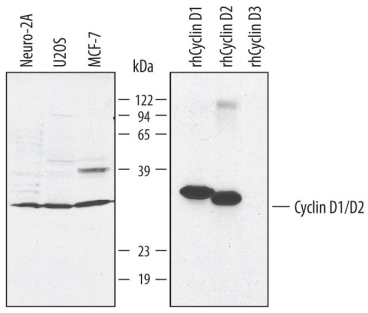
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Intracellular Staining by Flow Cytometry	2.5 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

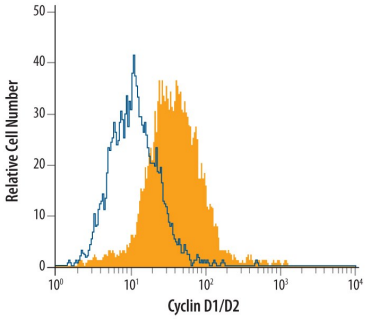
DATA

Western Blot



Detection of Human/Mouse Cyclin D1/D2 by Western Blot. Western blot shows lysates of Neuro-2A mouse neuroblastoma cell line, U2OS human osteosarcoma cell line, and MCF-7 human breast cancer cell line. PVDF membrane was probed with 1 µg/mL Goat Anti-Human/Mouse Cyclin D1/D2 Cross-reactive Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4196) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # HAF017). For additional reference, recombinant human Cyclin D1, D2, and D3 (5 ng/lane) were included. A specific band for Cyclin D1 was detected at approximately 33 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Intracellular Staining by Flow Cytometry



Detection of Cyclin D1/D2 in MCF-7 Human Cell Line by Flow Cytometry. MCF-7 human breast cancer cell line was stained with Goat Anti-Human/Mouse Cross-reactive Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4196, filled histogram) or isotype control AA175antibody (Catalog # Catalog # AB-108-C, open histogram), followed by Phycoerythrin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # F0107). To facilitate intracellular staining, cells were fixed with paraformaldeyde and permeabilized with saponin.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The D-type cyclins (cyclins D1, D2, and D3) and their associated kinases, Cdk4 and Cdk6, play an important role in the progression from G_0/G_1 to S phase in the mammalian cell cycle. Cyclin D complexes containing Cdk4 or Cdk6 phosphorylate the retinoblastoma protein (pRb). pRb phosphorylation leads to the release of E2F transcription factors, which activate the expression of S-phase genes and thereby induce cell cycle progression. Cyclin D1, independent of Cdk4 activity, functions as a transcriptional modulator by regulating the activity of several transcription factors, such as estrogen receptor, Myb, and STAT3. Cyclin D1 has also been linked to the development and progression of several cancers including breast, bladder, esophagus, and lung. Overexpression of Cyclin D2 has been reported in gastric carcinoma, ovarian granulose cell tumors, and hematopoietic cell cancers, while in breast cancers, cyclin D2 expression is undetectable in 80% of the tumors.

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