

Anti-Cyclin D1/CCND1 Antibody

Catalog Number: PA1245-2

About CCND1

Cyclin D1, also known as CCND1, is a human gene. The protein encoded by this gene belongs to the highly conserved cyclin family, whose members are characterized by a dramatic periodicity in protein abundance throughout the cell cycle. Cyclin D1 encodes the regulatory subunit of a holoenzyme that phosphorylates and inactivates the retinoblastoma protein and promotes progression through the G1-S phase of the cell cycle. Amplification or overexpression of cyclin D1 plays pivotal roles in the development of a subset of human cancers including parathyroid adenoma, breast cancer, colon cancer, lymphoma, melanoma, and prostate cancer. The cyclin D1 gene is overexpressed in human breast cancers and is required for oncogene-induced tumorigenesis. Briskin et al. (2003) found that prolactin (PRL; 176760) induced IGF2 (147470) mRNA and IGF2 induced cyclin D1 protein expression in mouse mammary epithelial cultures. And they also concluded that IGF2 is a mediator of prolactin-induced alveologenesis and that prolactin, IGF2, and cyclin D1 are components of a developmental pathway in mammary gland.

Overview

Product Name	Anti-Cyclin D1/CCND1 Antibody
Reactive Species	Human, Rat
Description	Boster Bio Anti-Cyclin D1/CCND1 Antibody catalog # PA1245-2. Tested in Flow Cytometry, WB applications. This antibody reacts with Human, Rat.
Application	Flow Cytometry, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P24385

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human Cyclin D1, different from the related mouse and rat sequences by two amino acids.
Predicted Reactive Species	Chicken
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot.
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG

Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>Western blot, 0.1-0.5ug/ml, Human, Rat</p> <p>Flow Cytometry, 1-3ug/1x10⁶ cells, Human</p>

Anti-Cyclin D1/CCND1 Antibody (PA1245-2) Images

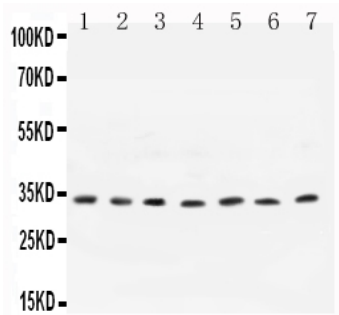


Figure 1. Western blot analysis of Cyclin D1 using anti-Cyclin D1 antibody (PA1245-2).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.

Lane 1: Rat Testis Tissue Lysate,
Lane 2: Human Placenta Tissue Lysate,
Lane 3: Rat Brain Tissue Lysate,
Lane 4: MCF-7 Whole Cell Lysate,
Lane 5: COLO320 Whole Cell Lysate,
Lane 6: SW620 Whole Cell Lysate,
Lane 7: MM231 Whole Cell Lysate.

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-Cyclin D1 antigen affinity purified polyclonal antibody (Catalog # PA1245-2) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for Cyclin D1 at approximately 33KD. The expected band size for Cyclin D1 is at 33KD.

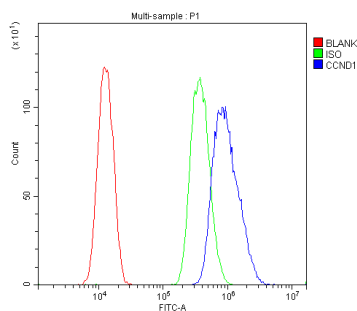


Figure 2. Flow Cytometry analysis of U-87MG cells using anti-Cyclin D1 antibody (PA1245-2).

Overlay histogram showing U-87MG cells stained with PA1245-2 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-Cyclin D1 Antibody (PA1245-2, 1ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

45 Publications Citing This Product

1. PubMed ID: 33289736, Liu S, Sun Y, Zhao R, Wang Y, Zhang W, Pang W. Isoleucine increases muscle mass through promoting myogenesis and intramyocellular fat deposition. Food Funct. 2021 Jan 7;12(1):144-153. doi: 10.1039/d0fo02156c. Epub 2020 Dec 8. PMID: 33289736.
2. PubMed ID: 31974617, Wang S, Zhang C, Zhang X. Downregulation of long non-coding RNA ANRIL promotes proliferation and migration in hypoxic human pulmonary artery smooth muscle cells. Mol Med Rep. 2020 Feb;21(2):589-596. doi: 10.3892/mmr.2019.10887. Epub 2019 Dec 17. PMID: 31974617; PMC
3. PubMed ID: 33292254, Wang C, Shao S, Deng L, Wang S, Zhang Y. LncRNA SNHG12 regulates the radiosensitivity of cervical cancer through the

miR-148a/CDK1 pathway. Cancer Cell Int.2020 Dec 1;20(1):554.doi:10.1186/s12935-020-01654-5.PMID:33292254;PMCID:PMC7708190.

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