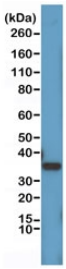
Recombinant Cyclin D1 Antibody [clone RM241] (R20262)

Catalog No.	Formulation	Size
R20262-0.1ML	Antibody in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ul

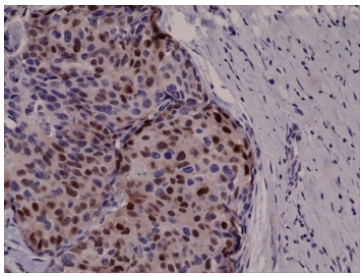
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Predicted Reactivity	Mouse, Rat, Bovine
Format	Purified
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM241
Purity	Protein A purified from animal origin-free supernatant
UniProt	P24385
Gene ID	595
Localization	Nuclear
Applications	Immunohistochemistry (FFPE) : 1:500-1:1000 (1) Western Blot : 1:1000-1:2000
Limitations	This recombinant Cyclin D1 antibody is available for research use only.



Western blot testing of human HeLa cell lysate with recombinant Cyclin D1 antibody at 1:1000. Predicted molecular weight: 32-36 kDa.



IHC testing of FFPE human breast cancer tissue with recombinant Cyclin D1 antibody at 1:1000.

Description

The Recombinant Cyclin D1 antibody is a recombinant reagent developed to detect cyclin D1, also known as CCND1, a key regulator of the G1 to S phase transition in the cell cycle. Cyclin D1 forms complexes with cyclin-dependent kinases CDK4 and CDK6, driving phosphorylation of the retinoblastoma protein (pRb) and promoting transcription of genes required for DNA synthesis. By integrating signals from growth factors, hormones, and mitogens, cyclin D1 functions as a critical checkpoint in cell proliferation. The Recombinant Cyclin D1 antibody provides highly reliable detection of this protein, supporting studies in cancer biology, cell cycle control, and developmental regulation.

Cyclin D1 is encoded by the CCND1 gene, located on chromosome 11q13. Amplification or overexpression of CCND1 is frequently observed in cancers of the breast, esophagus, head and neck, and bladder, among others. Elevated cyclin D1 expression contributes to oncogenesis by driving uncontrolled proliferation and impairing cell cycle checkpoints. In addition to its canonical role in cell cycle regulation, cyclin D1 influences transcriptional regulation and DNA repair processes, underscoring its multifunctional role in tumorigenesis. The Recombinant Cyclin D1 antibody recognizes conserved epitopes in the protein, ensuring consistent detection in tissues and cell lines.

In western blotting, the Recombinant Cyclin D1 antibody detects cyclin D1 as a distinct band, enabling quantitative measurement of protein levels in response to proliferative signals or therapeutic interventions. In immunohistochemistry, it highlights nuclear localization in tumor samples, supporting diagnostic evaluation of CCND1 overexpression. In immunofluorescence, the antibody reveals dynamic nuclear patterns that vary through the cell cycle. Its recombinant production ensures reproducibility between batches, reducing variability often encountered with hybridoma-derived antibodies.

The Recombinant Cyclin D1 antibody is particularly valuable in translational research and diagnostics. CCND1 overexpression is used as a biomarker in breast cancer and other malignancies, where it may inform prognosis and therapeutic strategies. Targeting the cyclin D1/CDK4/6 axis has led to the development of CDK4/6 inhibitors such as palbociclib, ribociclib, and abemaciclib, which are now established in cancer therapy. Detection of cyclin D1 with this antibody provides a reliable means to validate pathway activation and to monitor drug responses. Synonym phrases such as recombinant CCND1 antibody, recombinant G1 cyclin antibody, and recombinant cyclin D1 cell cycle antibody improve product discoverability across diverse research communities.

By delivering validated and reproducible detection, the Recombinant Cyclin D1 antibody strengthens studies in cell cycle biology and oncology. NSJ Bioreagents ensures stringent quality control for this reagent, enabling its use in western blotting, immunofluorescence, and immunohistochemistry. With its specificity for CCND1, the Recombinant Cyclin D1 antibody is a crucial tool for understanding proliferation and tumorigenesis.

This recombinant Cyclin D1 antibody reacts to human Cyclin D1. It may also react to the bovine, mouse or rat protein, as predicted by immunogen homology.

Application Notes

The stated application concentrations are suggested starting points. Titration of the recombinant Cyclin D1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

1. A pH6 Citrate buffer or pH9 Tris/EDTA buffer HIER step is recommended for testing of FFPE tissue sections.

Immunogen

A peptide corresponding to Cyclin D1 was used as the immunogen for this recombinant Cyclin D1 antibody.

Storage

Store the recombinant Cyclin D1 antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).