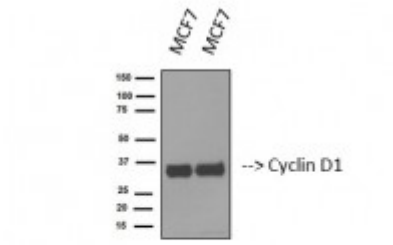
Anti-Cyclin D1 antibody



Western Blot (WB) analysis of MCF7 using Cyclin D1 Polyclonal Antibody from two batches. (STJ92538)

Description	Cyclin D1 is a protein encoded by the CCND1 gene which is approximately 33,7 kDa. Cyclin D1 is localised to the nucleus and cytoplasm. It is involved in CDK-mediated phosphorylation and removal of Cdc6, cyclins and cell cycle regulation. This protein falls under the highly conserved cyclin family. It is a regulatory component of the cyclin D1-CDK4 complex that phosphorylates and inhibits members of the retinoblastoma protein family including RB1 and regulates the cell-cycle during G1/S transition. Cyclin D1 is expressed in the nervous system, liver, skin, intestine and lung. Mutations in the CCND1 gene may result in multiple myeloma. STJ92538 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of Cyclin D1 protein.

Model	STJ92538
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IHC, WB
Immunogen	Synthesized peptide derived from human Cyclin D1 around the non-phosphorylation site of T286.
Immunogen Region	220-300 aa
Gene ID	595
Gene Symbol	CCND1
Dilution range	WB 1:500-1:2000IHC 1:100-1:300ELISA 1:40000
Specificity	Cyclin D1 Polyclonal Antibody detects endogenous levels of Cyclin D1

	protein.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	G1/S-specific cyclin-D1 B-cell lymphoma 1 protein BCL-1 BCL-1 oncogene PRAD1 oncogene
Molecular Weight	36 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:1582OMIM:168461
Alternative Names	G1/S-specific cyclin-D1 B-cell lymphoma 1 protein BCL-1 BCL-1 oncogene PRAD1 oncogene
Function	Regulatory component of the cyclin D1-CDK4 (DC) complex that phosphorylates and inhibits members of the retinoblastoma (RB) protein family including RB1 and regulates the cell-cycle during G(1)/S transition. Phosphorylation of RB1 allows dissociation of the transcription factor E2F from the RB/E2F complex and the subsequent transcription of E2F target genes which are responsible for the progression through the G(1) phase. Hypophosphorylates RB1 in early G(1) phase. Cyclin D-CDK4 complexes are major integrators of various mitogenenic and antimitogenic signals. Also substrate for SMAD3, phosphorylating SMAD3 in a cell-cycle-dependent manner and repressing its transcriptional activity. Component of the ternary complex, cyclin D1/CDK4/CDKN1B, required for nuclear translocation and activity of the cyclin D-CDK4 complex. Exhibits transcriptional corepressor activity with INSM1 on the NEUROD1 and INS promoters in a cell cycle-independent manner.
Cellular Localization	Nucleus Cytoplasm Membrane. Cyclin D-CDK4 complexes accumulate at the nuclear membrane and are then translocated to the nucleus through interaction with KIP/CIP family members.
Post-translational Modifications	Phosphorylation at Thr-286 by MAP kinases is required for ubiquitination and degradation following DNA damage. It probably plays an essential role for recognition by the FBXO31 component of SCF (SKP1-cullin-F-box) protein ligase complex. Ubiquitinated, primarily as 'Lys-48'-linked polyubiquitination. Ubiquitinated by a SCF (SKP1-CUL1-F-box protein) ubiquitin-protein ligase complex containing FBXO4 and CRYAB. Following DNA damage it is ubiquitinated by some SCF (SKP1-cullin-F-box) protein ligase complex containing FBXO31. SCF-type ubiquitination is dependent on Thr-286 phosphorylation . Ubiquitinated also by UHRF2 apparently in a phosphorylation-independent manner. Ubiquitination leads to its degradation and G1 arrest. Deubiquitinated by USP2; leading to its stabilization.

St John's Laboratory Ltd

F +44 (0)207 681 2580
T +44 (0)208 223 3081

W http://www.stjohnslabs.com/
E info@stjohnslabs.com