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Rabbit Anti-Cyclin D1 antibody

SL0623R

Product Name	Cyclin D1
Chinese Name	周期素 D1 抗体
Alias	CyclinD1; Cyclin-D1; B cell ccl/lymphoma 1; B cell leukemia 1; B-cell CLL/lymphoma 1; B-cell leukemia 1; B-cell lymphoma 1 protein; BCL-1; BCL1; BCL1 oncogene; CCND 1; CCND1; CCND1 protein; CCND1/FSTL3 fusion gene, included; CCND1/IGHG1 fusion gene; CCND1/IGHG1 fusion gene, included; CCND1/IGLC1 fusion gene, included; CCND1/PTH fusion gene, included; Parathyroid adenomatosis 1; PRAD1; FSTL3; CCND1_HUMAN; AI327039; B cell lymphoma 1 protein; BCL 1; BCL-1; BCL-1 oncogene; BCL1 oncogene; CCND1/FSTL3 fusion gene, included; cD1; Cyl 1; D11S287E; G1/S specific cyclin D1; G1/S-specific cyclin-D1.
Research Area	Tumour Cell biology Chromatin and nuclear signals Cyclin Epigenetics
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human, Mouse, Rat, (predicted: Dog,)
Applications	WB=1:500-2000,IHC-P=1:50-200,ICC/IF=1:50-200,IHC-F=1:50-200,IF=1:50-200 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	32kDa
Cellular localization	The nucleus cytoplasmic The cell membrane
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human Cyclin D1: 61-110/295
Lsotype	IgG
Purification	affinity purified by Protein A
Buffer	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.

Solution	
Storage	Shipped at 4℃. Store at -20 ℃ for one year. Avoid repeated freeze/thaw cycles.
Attention	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
PubMed	PubMed
Product Detail	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. Cyclins function as regulators of CDK kinases. Different cyclins exhibit distinct expression and degradation patterns which contribute to the temporal coordination of each mitotic event. This cyclin forms a complex with and functions as a regulatory subunit of CDK4 or CDK6, whose activity is required for cell cycle G1/S transition. This protein has been shown to interact with tumor suppressor protein Rb and the expression of this gene is regulated positively by Rb. Mutations, amplification and overexpression of this gene, which alters cell cycle progression, are observed frequently in a variety of tumors and may contribute to tumorigenesis. [provided by RefSeq, Jul 2008]. **Function:** Regulatory component of the cyclin D1-CDK4 (DC) complexthat phosphorylates and inhibits members of the retinoblastoma (RB)protein family including RB1 and regulates the cell-cycle duringG(1)/S transition. Phosphorylation of RB1 allows dissociation ofthe transcription factor E2F from the RB/E2F complex and thesubsequent transcription of E2F target genes which are responsiblefor the progression through the G(1) phase. Hypophosphorylates RB1in early G(1) phase. Cyclin D-CDK4 complexes are major integratorsof various mitogenenic and antimitogenic signals. Also substratefor SMAD3, phosphorylating SMAD3 in a cell-cycle-dependent mannerand repressing its transcriptional activity. Component of theternary complex, cyclin D1/CDK4/CDKN1B, required for nucleartranslocation and activity of the cyclin D-CDK4 complex. **Subunit:** Interacts with FBXO4. Interacts witheither CDK4 or CDK6 protein kinase to form a serine/threoninekinase holoenzyme complex. The cyclin subunit imparts substratespecificity to the complex. Component of the ternary complexCCND1/CDK4/CDKN1B required for nuclear translocation and modulationof CDK4-mediated kinase activity. Interacts directly with CDKN1B.Interacts with UHRF2; the interaction ubiquitinates CCND1 andappears to occur independently of phosphorylation. Can form similarcomplexes with either CDKN1A or CDKN2A. Interacts with USP2. **Subcellular Location:** Nucleus. Cytoplasm. Membrane. Note=CyclinD-CDK4 complexes accumulate at the nuclear membrane and are thentranslocated to the nucleus through interaction with

KIP/CIP familymembers.

Post-translational modifications:
Phosphorylation at Thr-286 by MAP kinases is required forubiquitination and degradation following DNA damage. It probablyplays an essential role for recognition by the FBXO31 component ofSCF (SKP1-cullin-F-box) protein ligase complex. Ubiquitinated, primarily as 'Lys-48'-linkedpolyubiquitination. Ubiquitinated by a SCF (SKP1-CUL1-F-boxprotein) ubiquitin-protein ligase complex containing FBXO4 andCRYAB. 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 (Bysimilarity). Ubiquitinated also by UHRF2 apparently in aphosphorylation-independent manner. Ubiquitination leads to itsdegradation and G1 arrest. Deubiquitinated by USP2; leading to itsstabilization.

DISEASE:
Note=A chromosomal aberration involving CCND1 may be acause of B-lymphocytic malignancy, particularly mantle-celllymphoma (MCL). Translocation t(11;14)(q13;q32) with immunoglobulingene regions. Activation of CCND1 may be oncogenic by directlyaltering progression through the cell cycle.
Note=A chromosomal aberration involving CCND1 may be acause of parathyroid adenomas. Translocation t(11;11)(q13;p15) withthe parathyroid hormone (PTH) enhancer.
Defects in CCND1 are a cause of multiple myeloma (MM)[MIM:254500]. MM is a malignant tumor of plasma cells usuallyarising in the bone marrow and characterized by diffuse involvementof the skeletal system, hyperglobulinemia, Bence-Jones proteinuriaand anemia. Complications of multiple myeloma are bone pain,hypercalcemia, renal failure and spinal cord compression. Theaberrant antibodies that are produced lead to impaired humoralimmunity and patients have a high prevalence of infection.Amyloidosis may develop in some patients. Multiple myeloma is partof a spectrum of diseases ranging from monoclonal gammopathy ofunknown significance (MGUS) to plasma cell leukemia. Note=Achromosomal aberration involving CCND1 is found in multiplemyeloma. Translocation t(11;14)(q13;q32) with the IgH locus.

Similarity:
Belongs to the cyclin family. Cyclin D subfamily.

SWISS:
P25322

Gene ID:
595

Database links:

Entrez Gene: 595 Human

Entrez Gene: 12443 Mouse

Entrez Gene: 58919 Rat

Omim: 168461 Human

SwissProt: P24385 Human

SwissProt: P25322 Mouse

SwissProt: P39948 Rat

Unigene: 523852 Human

Unigene: 667996 Human

Unigene: 273049 Mouse

Unigene: 22279 Rat

细胞周期素 D1 蛋白（Cyclin D1）是细胞周期中的重要调控因子，它作用于细胞周期的 G1→S 期调控点，为 G1 期的限速步骤。
CyclinD1-Cyclin D1 的过度表达使细胞周期 G1 期缩短，细胞生长对有丝分裂原和粘附信号的需求降低，最终引发 Tumour 的发生。该抗原的氨基酸序列抗原决定簇-结合位点，我们选在了细胞质的粗面内质网。越来越多的研究表明。
CyclinD1 在正常细胞周期及 Tumour 的调节中起着重要作用。周期素 D1/Bcl-1 属于细胞周期调控蛋白家族成员之一，在细胞周期从 G1 进入 S 期中起到重要作用。周期素 D1 的过度表达与癌症的早发、Tumour 的进展和转移相关。该抗体可用于细胞周期方面的研究，

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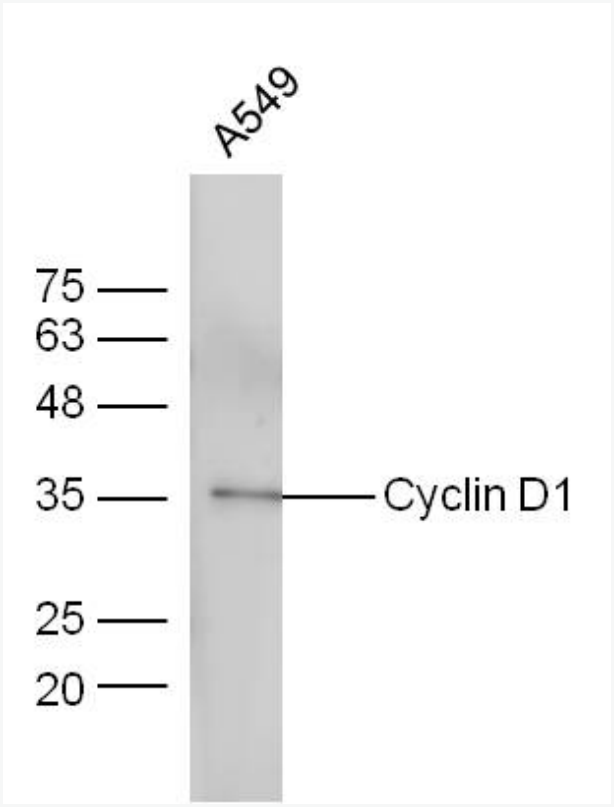
Product Picture



Sample: A549 Lysate at 40 ug

Primary: Anti-CyclinD1 (SL0623R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/10000 dilution

Predicted band size: 32 kD

Observed band size: 35 kD

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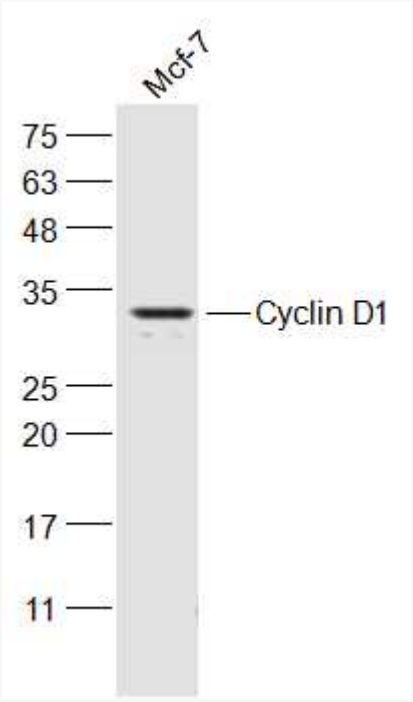

Sample:

Mcf-7(Human) Cell Lysate at 30 ug

Primary: Anti-Cyclin D1 (SL0623R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 32 kD

Observed band size: 32 kD

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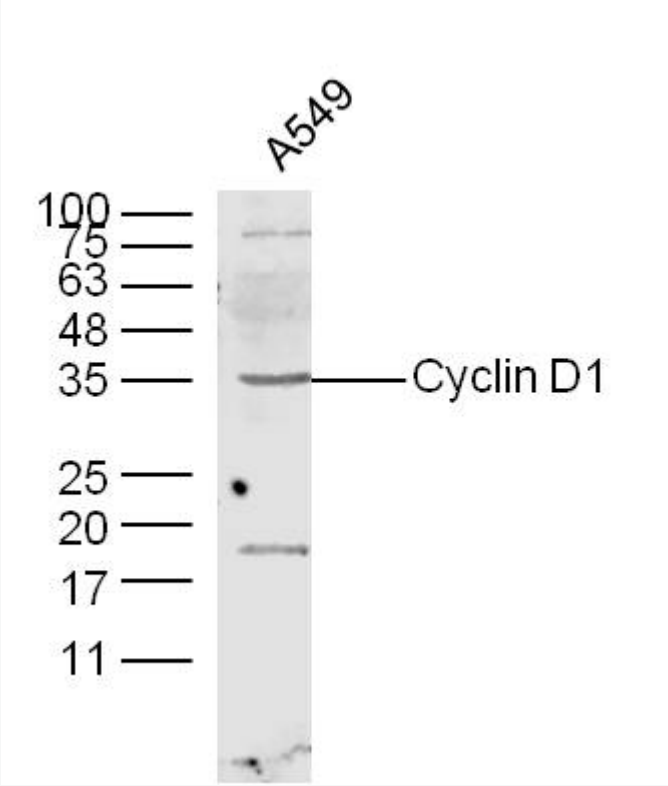

Sample:

A549 Cell (Human) Lysate at 30 ug

Primary: Anti-Cyclin D1 (SL0623R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 32 kD

Observed band size: 35 kD

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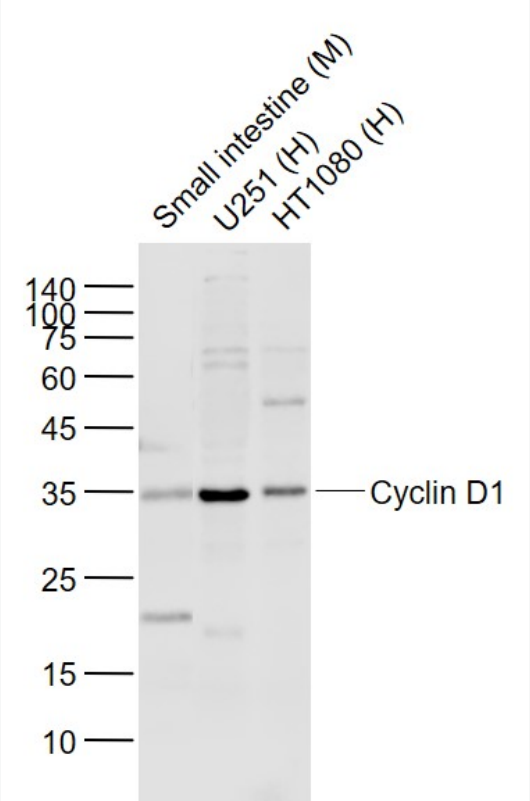

Sample:

Lane 1: Small intestine (Mouse) Lysate at 40 ug

Lane 2: U251 (Human) Cell Lysate at 30 ug

Lane 3: HT1080 (Human) Cell Lysate at 30 ug

Primary: Anti-Cyclin D1 (SL0623R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 34 kD

Observed band size: 34 kD

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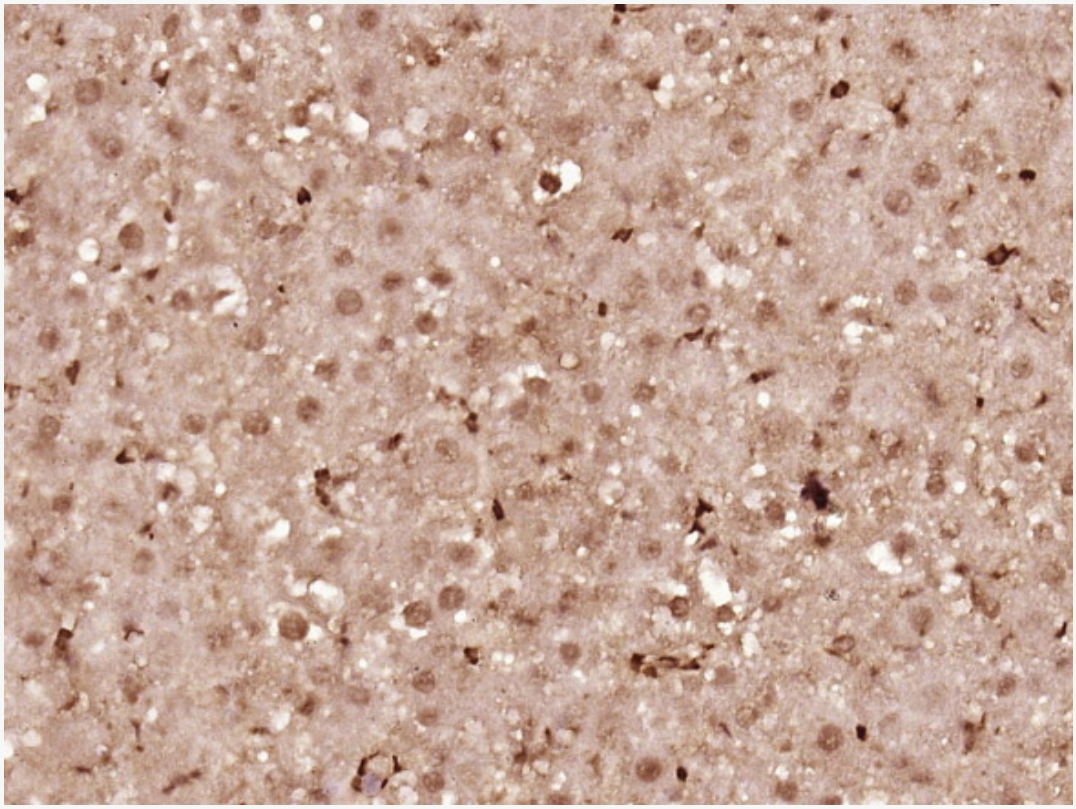

Paraformaldehyde-fixed, paraffin embedded (Rat liver); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Cyclin D1) Polyclonal Antibody, Unconjugated (SL0623R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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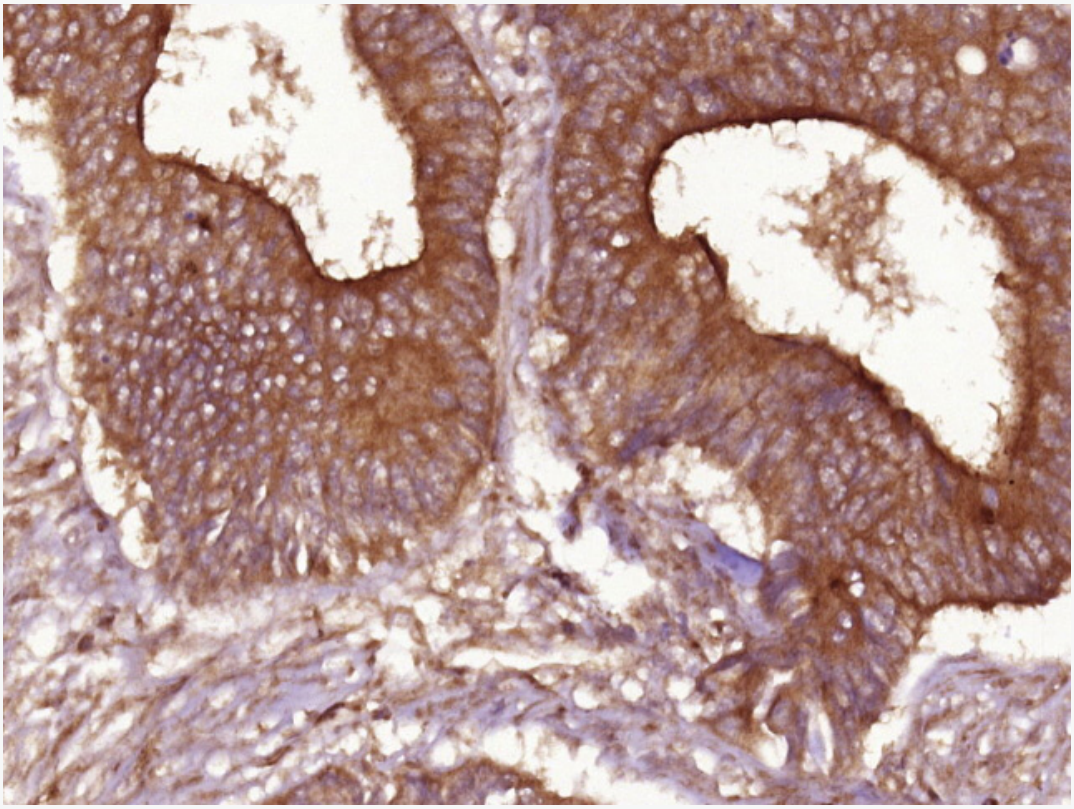

Paraformaldehyde-fixed, paraffin embedded (Human cervical cancer); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Cyclin D1) Polyclonal Antibody, Unconjugated (SL0623R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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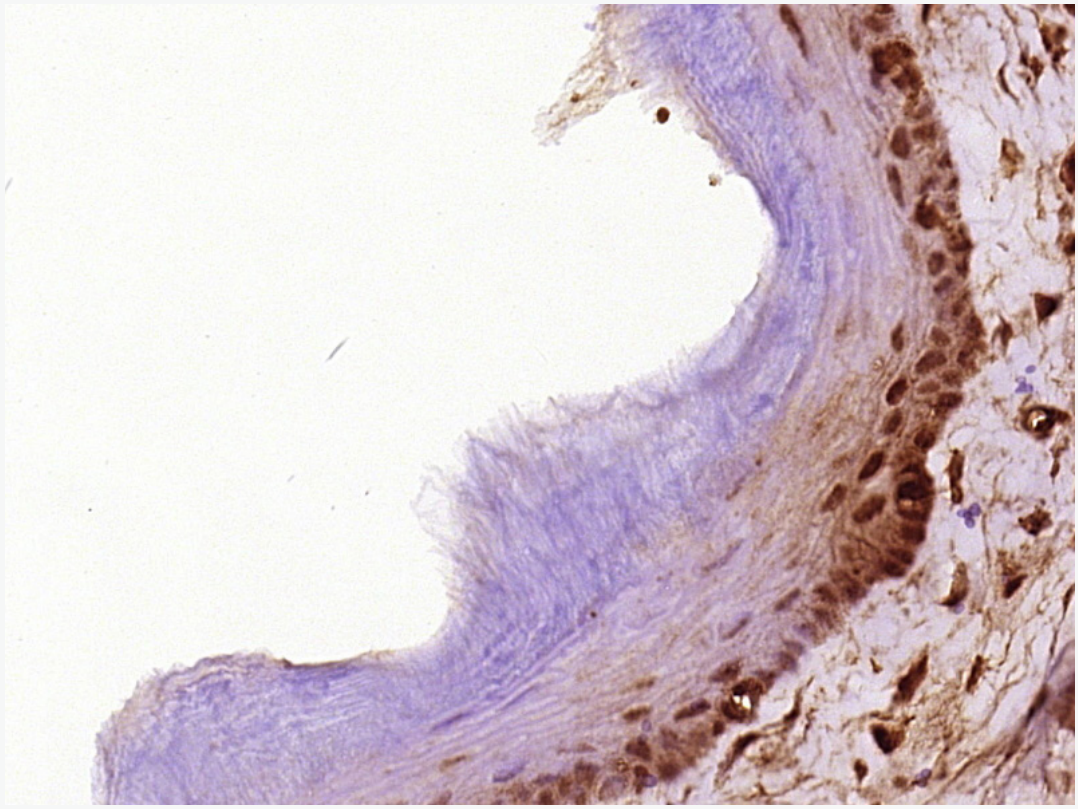

Paraformaldehyde-fixed, paraffin embedded (Rat esophageal); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Cyclin D1) Polyclonal Antibody, Unconjugated (SL0623R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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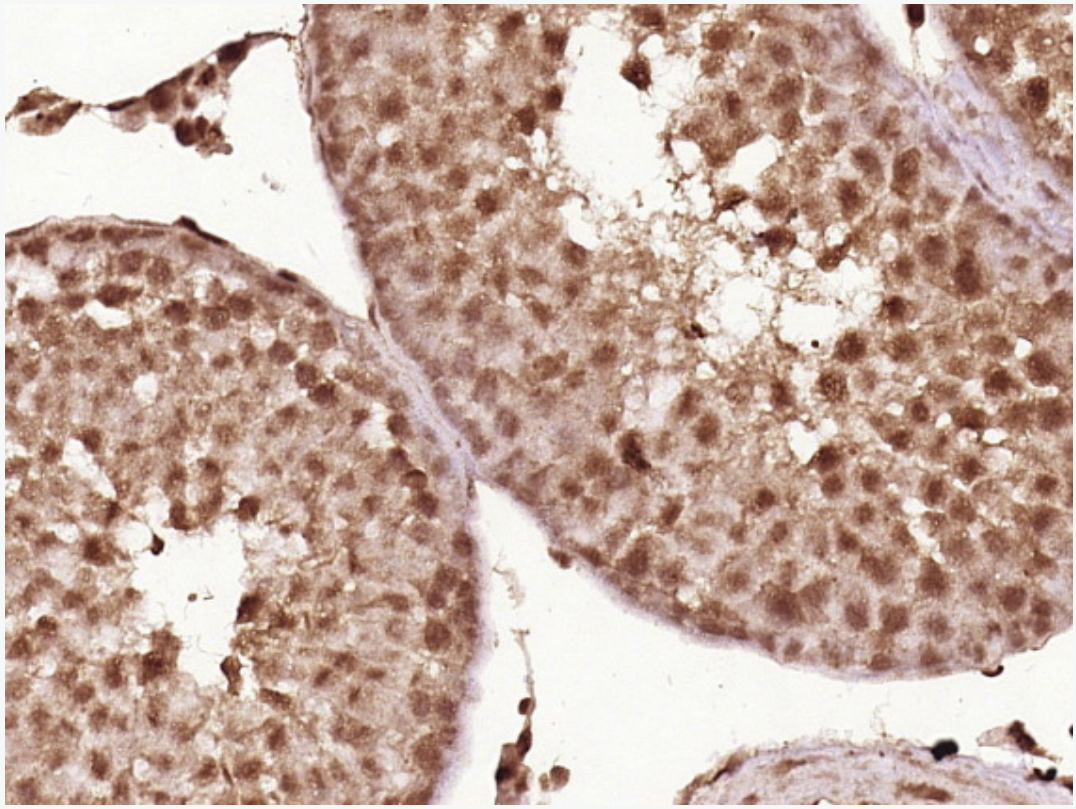

Paraformaldehyde-fixed, paraffin embedded (Rat testis); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Cyclin D1) Polyclonal Antibody, Unconjugated (SL0623R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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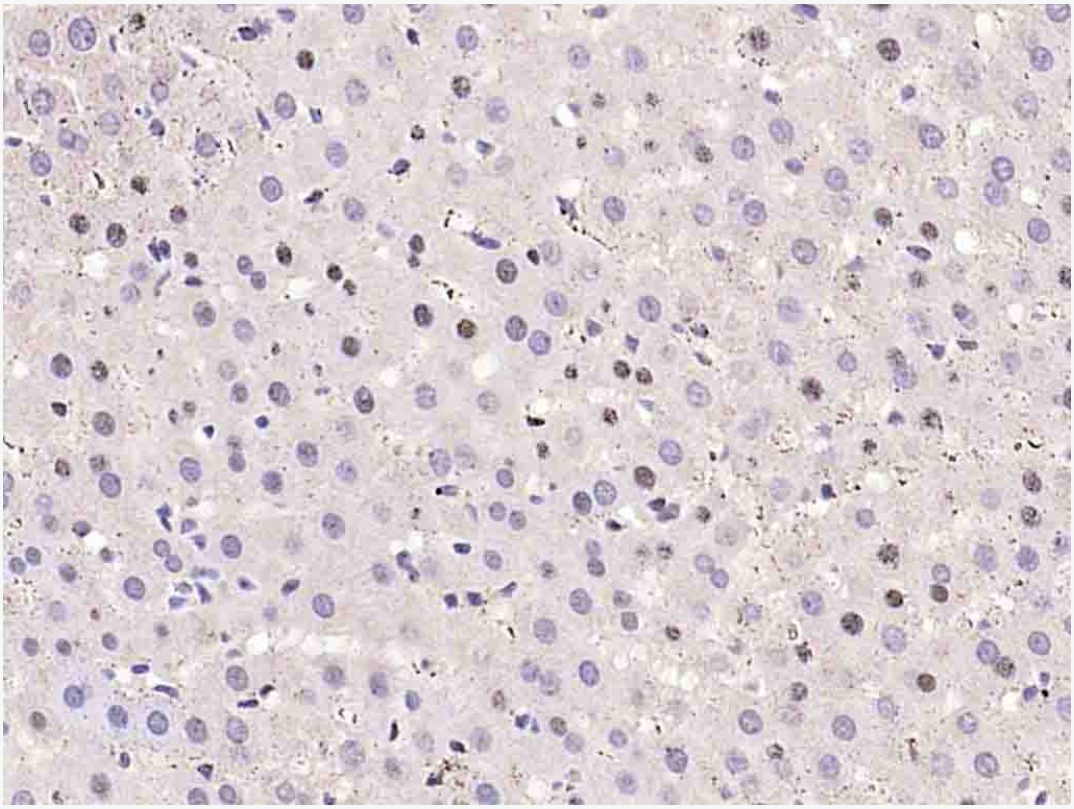

Paraformaldehyde-fixed, paraffin embedded (rat liver); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Cyclin D1) Polyclonal Antibody, Unconjugated (SL0623R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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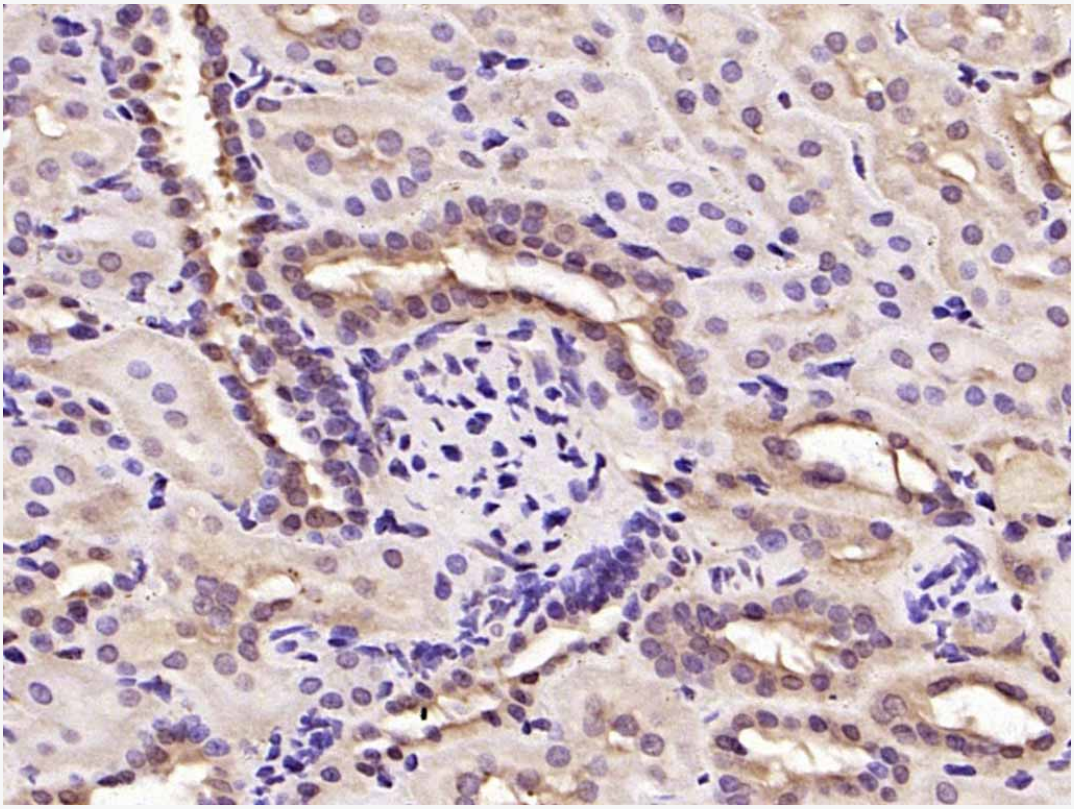

Paraformaldehyde-fixed, paraffin embedded (rat kidney); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Cyclin D1) Polyclonal Antibody, Unconjugated (SL0623R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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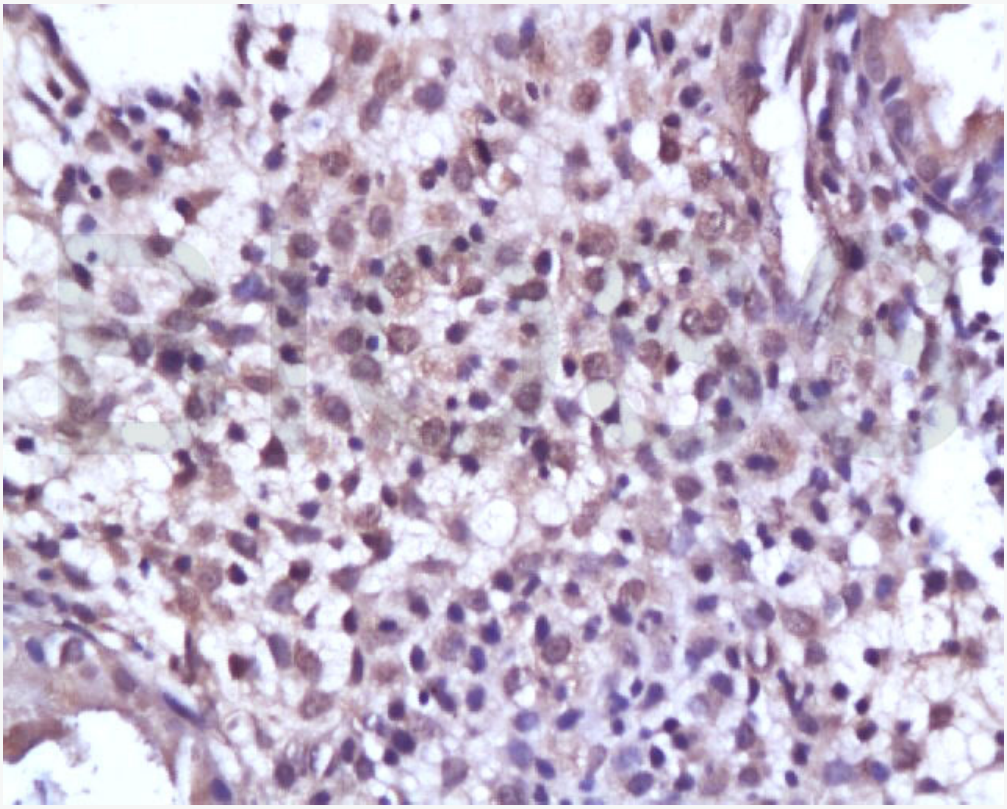

Tissue/cell: human endometrium carcinoma; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;

Incubation: Anti-Cyclin D1 Polyclonal Antibody, Unconjugated(SL0623R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

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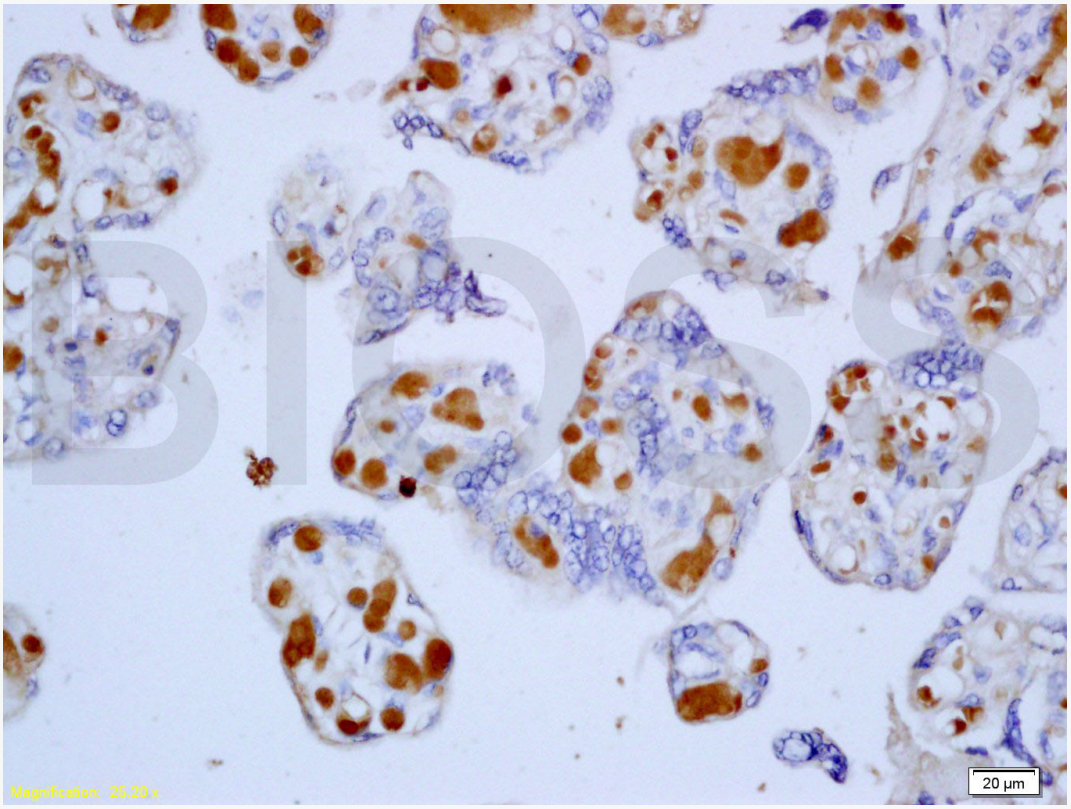

Tissue/cell: human placenta tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;

Incubation: Anti-Cyclin D1 Polyclonal Antibody, Unconjugated(SL0623R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

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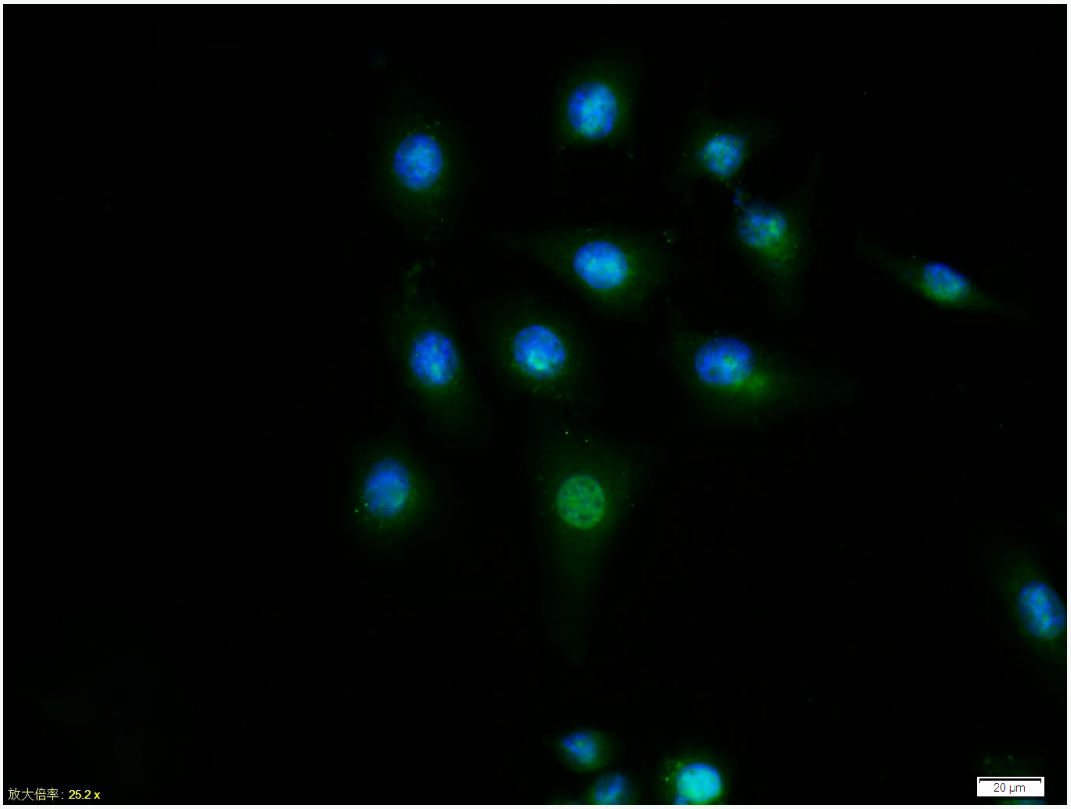

Tissue/cell:MCF7 cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (Cyclin D1) polyclonal Antibody, Unconjugated (SL0623R) 1:100, 90 minutes at 37°C; followed by a FITC conjugated Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain the cell nuclei.

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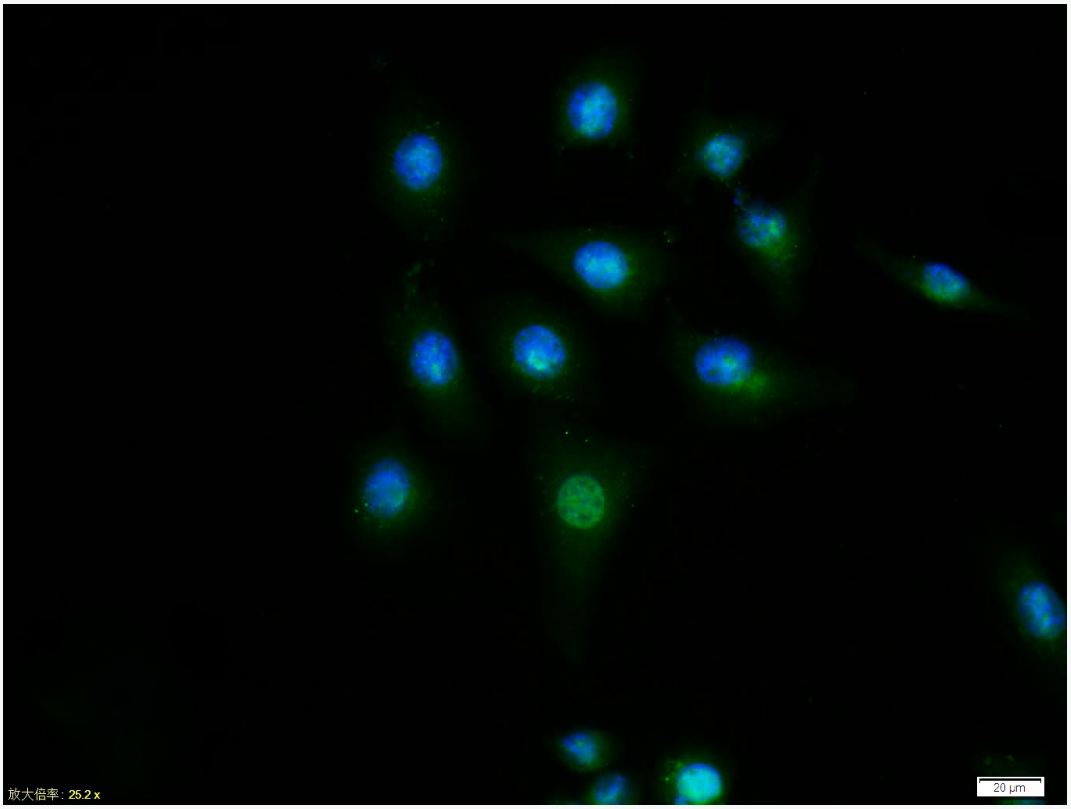

Tissue/cell:MCF7 cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (Cyclin D1) polyclonal Antibody, Unconjugated (SL0623R) 1:100, 90 minutes at 37°C; followed by a FITC conjugated Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain the cell nuclei.

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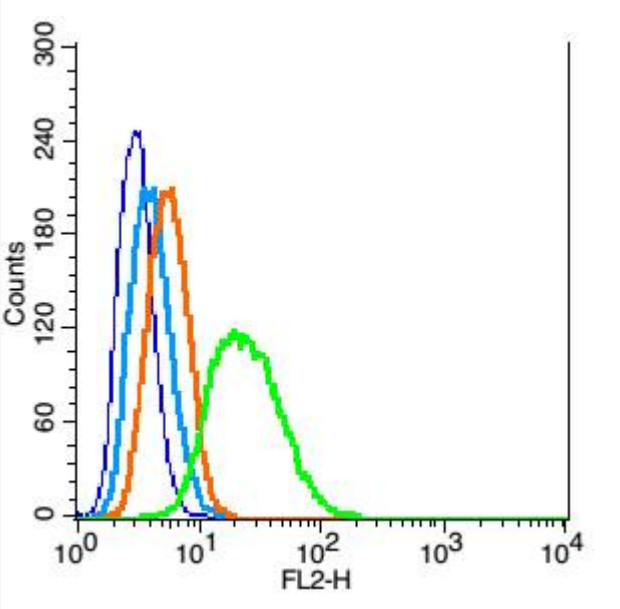

Blank control: RSC96(blue), the cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with ice-cold 90% methanol for 30 min on ice. Isotype Control Antibody: Rabbit IgG(orange) ; Secondary Antibody: Goat anti-rabbit IgG-PE(white blue), Dilution: 1:200 in 1 X PBS containing 0.5% BSA ; Primary Antibody Dilution: 1μg in 100 μL1X PBS containing 0.5% BSA(green).