SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

Rabbit Anti-CDK4 antibody

SL0633R

Product Name	CDK4
Chinese Name	周期素依赖性激酶 4 抗体
Alias	Cdk 4; CDK4 protein; Cell division kinase 4; Cell division protein kinase 4; CMM 3; CMM3; C dependent kinase 4; Melanoma cutaneous malignant 3; MGC14458; p34 cdk4; PSK J3; CDK4_
Research Area	Tumour Cell biology Chromatin and nuclear signals Signal transduction Cyclin Kinases and Pho
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human, Mouse, Rat, (predicted: Pig, Cow,)
Applications	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,Flow-C （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	34kDa
Cellular localization	The nucleus cytoplasmic The cell membrane
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human CDK4: 241-303/303
Lsotype	IgG
Purification	affinity purified by Protein A
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4℃. Store at -20 °C 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 d applications.
PubMed	PubMed
Product	The protein encoded by this gene is a member of the Ser/Thr protein kinase family. This protein

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

Detail

similar to the gene products of S. cerevisiae cdc28 and S. pombe cdc2. It is a catalytic subunit of kinase complex that is important for cell cycle G1 phase progression. The activity of this kinase is the G1-S phase, which is controlled by the regulatory subunits D-type cyclins and CDK inhibitor This kinase was shown to be responsible for the phosphorylation of retinoblastoma gene product Mutations in this gene as well as in its related proteins including D-type cyclins, p16(INK4a) and found to be associated with tumorigenesis of a variety of cancers. Multiple polyadenylation sites have been reported. [provided by RefSeq, Jul 2008]

Function:
Ser/Thr-kinase component of cyclin D-CDK4 (DC) complexes that phosphorylate and inhibit me retinoblastoma (RB) protein family including RB1 and regulate the cell-cycle during G(1)/S tran Phosphorylation of RB1 allows dissociation of the transcription factor E2F from the RB/E2F com the subsequent transcription of E2F target genes which are responsible for the progression throug phase. Hypophosphorylates RB1 in early G(1) phase. Cyclin D-CDK4 complexes are major inte various mitogenenic and antimitogenic signals. Also phosphorylates SMAD3 in a cell-cycle-dep manner and represses its transcriptional activity. Component of the ternary complex, cyclin D/CDK4/CDKN1B, required for nuclear translocation and activity of the cyclin D-CDK4 compl

Subunit:
Component of the D-CDK4 complex, composed of CDK4 and some D-type G1 cyclin (CCND1, CCND3). Interacts directly in the complex with CCND1, CCND2 or CCND3. Interacts with SEI ZNF655. Forms a ternary complex, cyclin D-CDK4-CDKN1B, involved in modulating CDK4 e activity. Interacts directly with CDKN1B (phosphorylated on 'Tyr-88' and 'Tyr-89'); the interacti assembly of the cyclin D-CDK4 complex, Thr-172 phosphorylation, nuclear translocation and en cyclin D-CDK4 complex activity. CDK4 activity is either inhibited or enhanced depending on st of complex. The non-tyrosine-phosphorylated form of CDKN1B prevents T-loop phosphorylatio producing inactive CDK4. Interacts (unphosphorylated form) with CDK2. Also forms ternary com CDKN1A or CDKN2A. Interacts directly with CDKN1A (via its N-terminal); the interaction pro assembly of the cyclin D-CDK4 complex, its nuclear translocation and promotes the cyclin D-de enzyme activity of CDK4.

Subcellular Location:
Cytoplasm. Nucleus. Membrane. Cytoplasmic when non-complexed. Forms a cyclin D-CDK4 co cytoplasm as cells progress through G(1) phase. The complex accumulates on the nuclear memb enters the nucleus on transition from G(1) to S phase. Also present in nucleoli and heterochroma Colocalizes with RB1 after release into the nucleus.

Post-translational modifications:
Phosphorylation at Thr-172 is required for enzymatic activity. Phosphorylated, in vitro, at this si CCNH-CDK7, but, in vivo, appears to be phosphorylated by a proline-directed kinase. In the cyc D-CDK4-CDKN1B complex, this phosphorylation and consequent CDK4 enzyme activity, is de the tyrosine phosphorylation state of CDKN1B. Thus, in proliferating cells, CDK4 within the co phosphorylated on Thr-172 in the T-loop. In resting cells, phosphorylation on Thr-172 is prevent non-tyrosine-phosphorylated form of CDKN1B.

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

DISEASE:
Defects in CDK4 are a cause of susceptibility to cutaneous malignant melanoma type 3 (CMM3) [MIM:609048]. Malignant melanoma is a malignant neoplasm of melanocytes, arising de novo o pre-existing benign nevus, which occurs most often in the skin but also may involve other sites.

Similarity:
Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. CDC2/CDKX Contains 1 protein kinase domain.

SWISS:
P11802

Gene ID:
1019

Database links:

Entrez Gene: 1019 Human

Entrez Gene: 12567 Mouse

Entrez Gene: 94201 Rat

Omim: 123829 Human

SwissProt: P11802 Human

SwissProt: P30285 Mouse

SwissProt: P35426 Rat

Unigene: 95577 Human

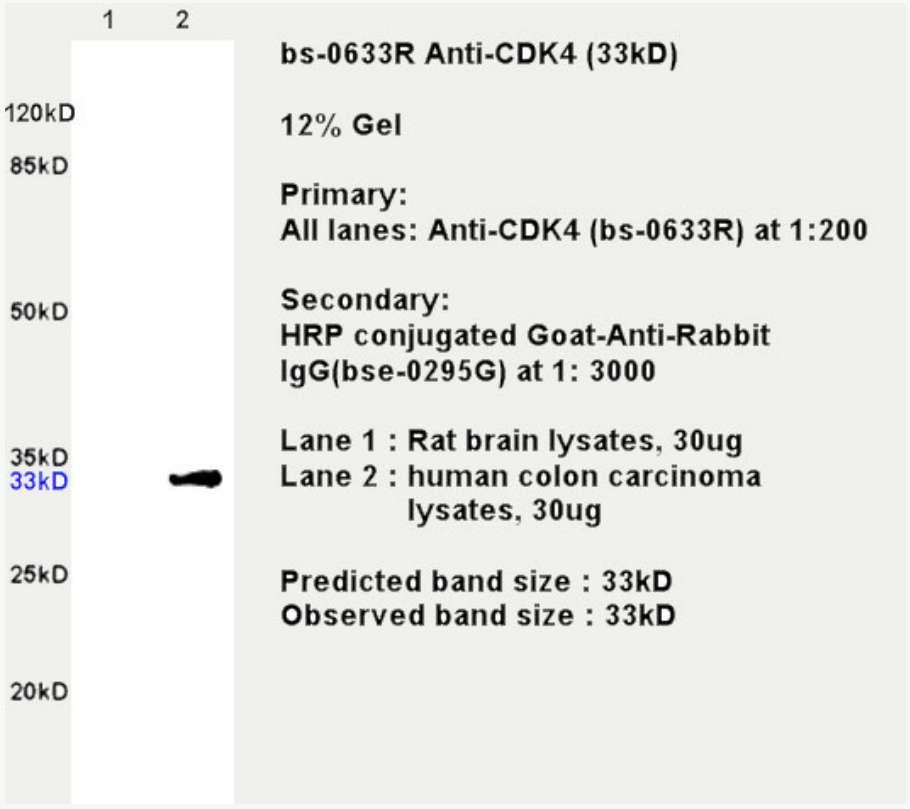
Unigene: 6839 Mouse

Unigene: 6115 Rat

Cdk4 为周期素依赖激酶 4，主要参与细胞周期的调控，在 Cell differentiation、有丝分裂中起 目前主要用于各种 Tumour 的研究。

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

Product Picture



Sample:

Brain (Rat) Lysate at 30 ug

Colon carcinoma(Human) lysate at 30 ug

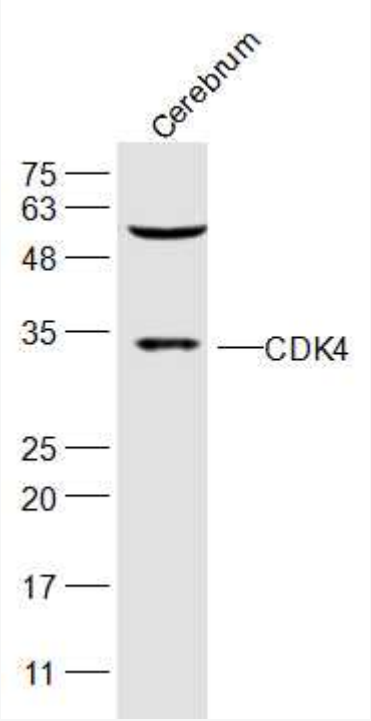
Primary: Anti- CDK4 (SL0633R) at 1/200 dilution

Secondary: HRP conjugated Goat-Anti-rabbit IgG (SL0295G-HRP) at 1/3000 dilution

Predicted band size: 33 kD

Observed band size: 33 kD

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com



Sample:

Cerebrum (Mouse) Lysate at 40 ug

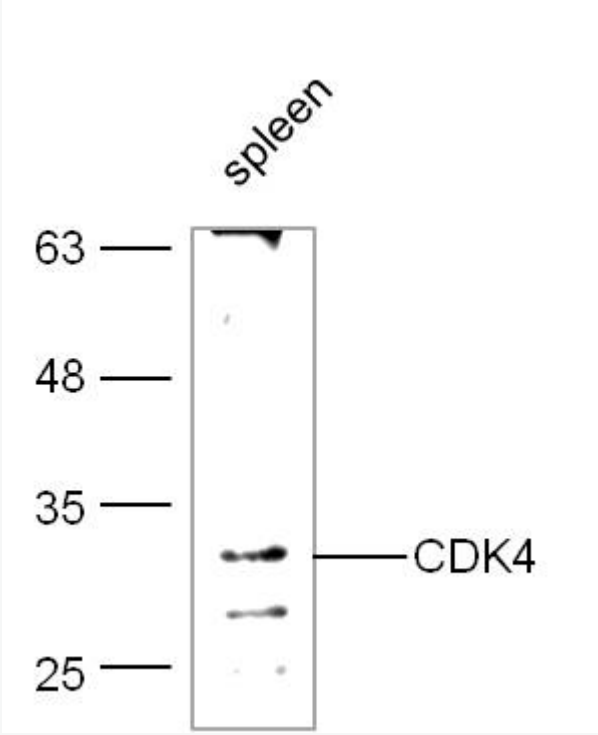
Primary: Anti-CDK4 (SL0633R) at 1/300 dilution

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

Predicted band size: 34 kD

Observed band size: 34 kD

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com



Sample:

Spleen (Mouse) Lysate at 40 ug

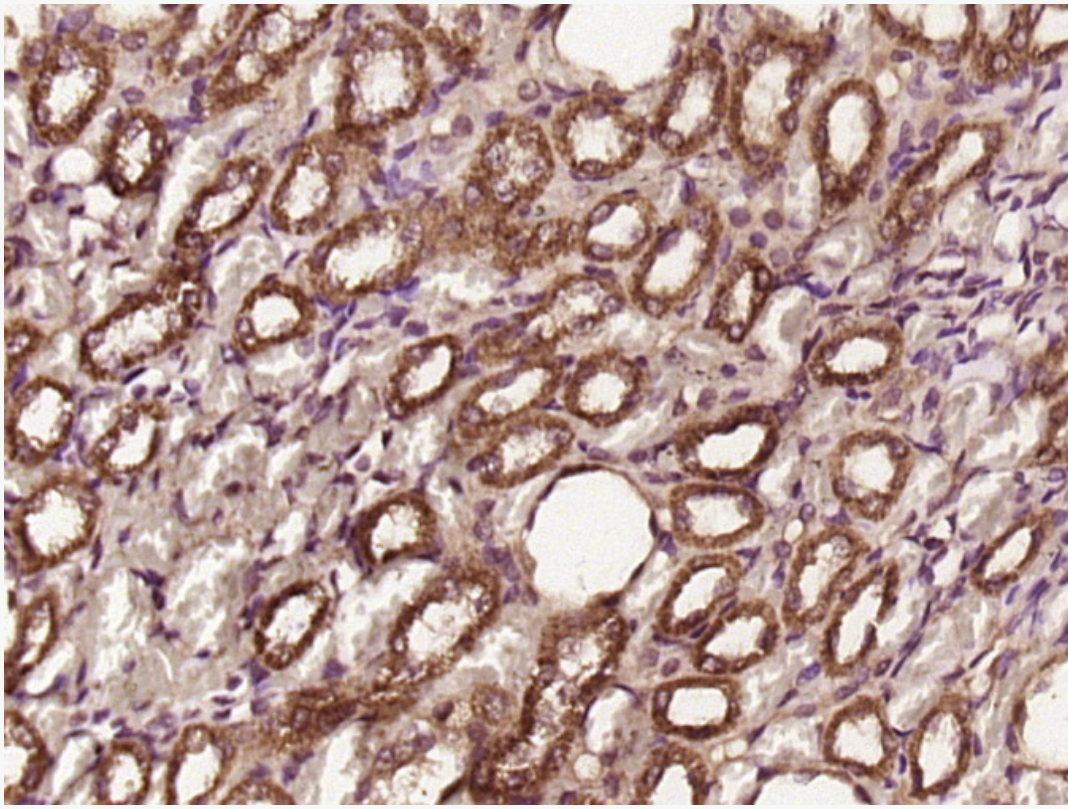
Primary: Anti-CDK4 (SL0633R) at 1/300 dilution

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

Predicted band size: 34 kD

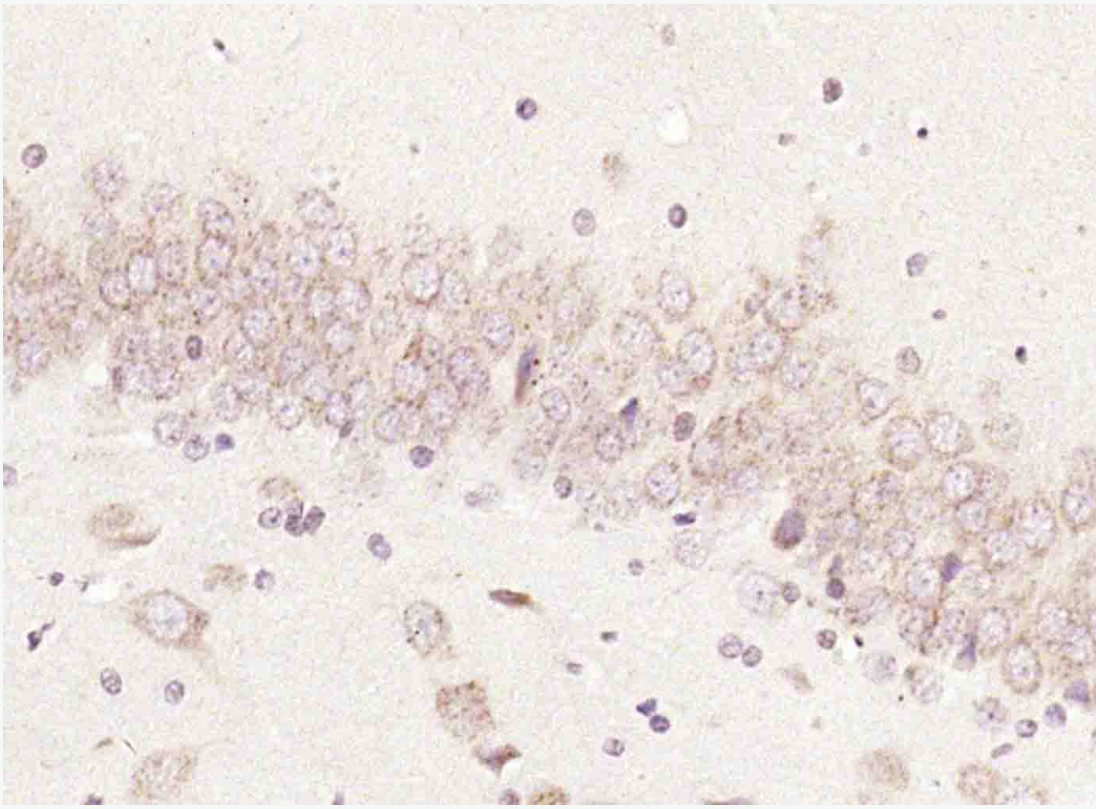
Observed band size: 34 kD

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com



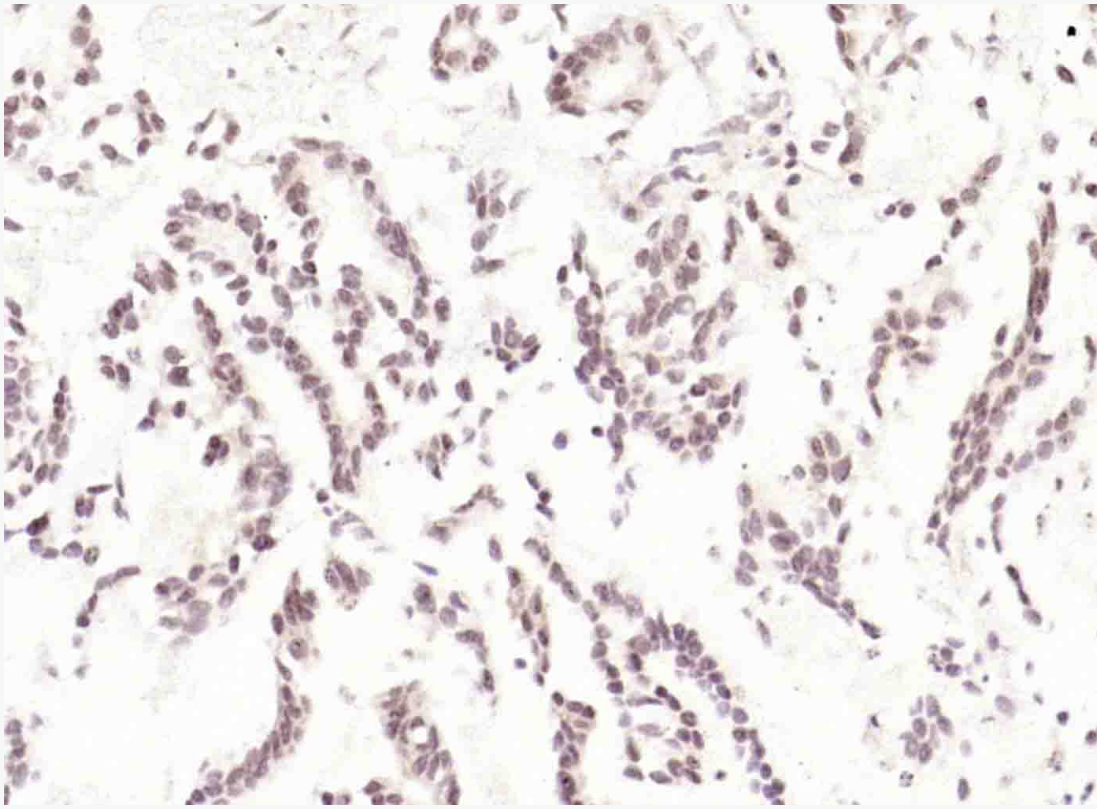
Paraformaldehyde-fixed, paraffin embedded (rat kidney tissue); Antigen retrieval by boiling in citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 2 Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (CDK4) Po Antibody, Unconjugated (SL0633R) at 1:400 overnight at 4°C, followed by operating accordi Kit(Rabbit) (sp-0023) instructionsand DAB staining.

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com



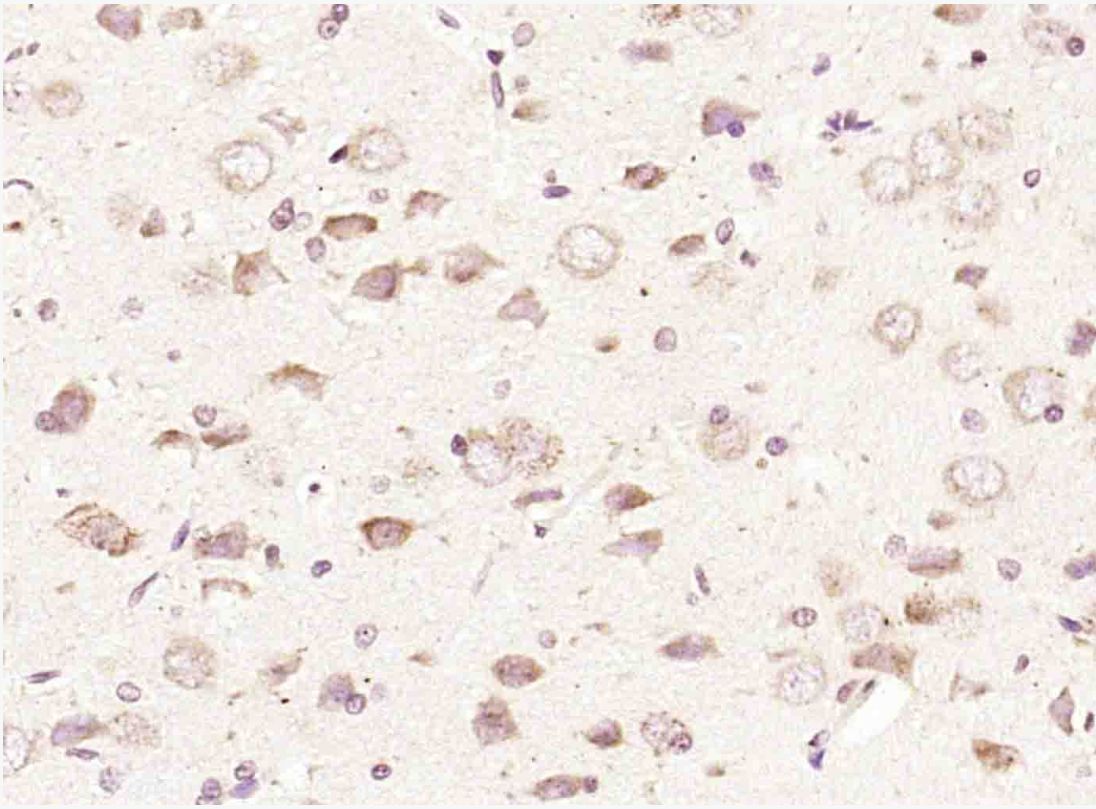
Paraformaldehyde-fixed, paraffin embedded (rat brain); Antigen retrieval by boiling in sodiun buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (CDK4) Po Antibody, Unconjugated (SL0633R) at 1:200 overnight at 4°C, followed by operating accordi Kit(Rabbit) (sp-0023) instructionsand DAB staining.

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com



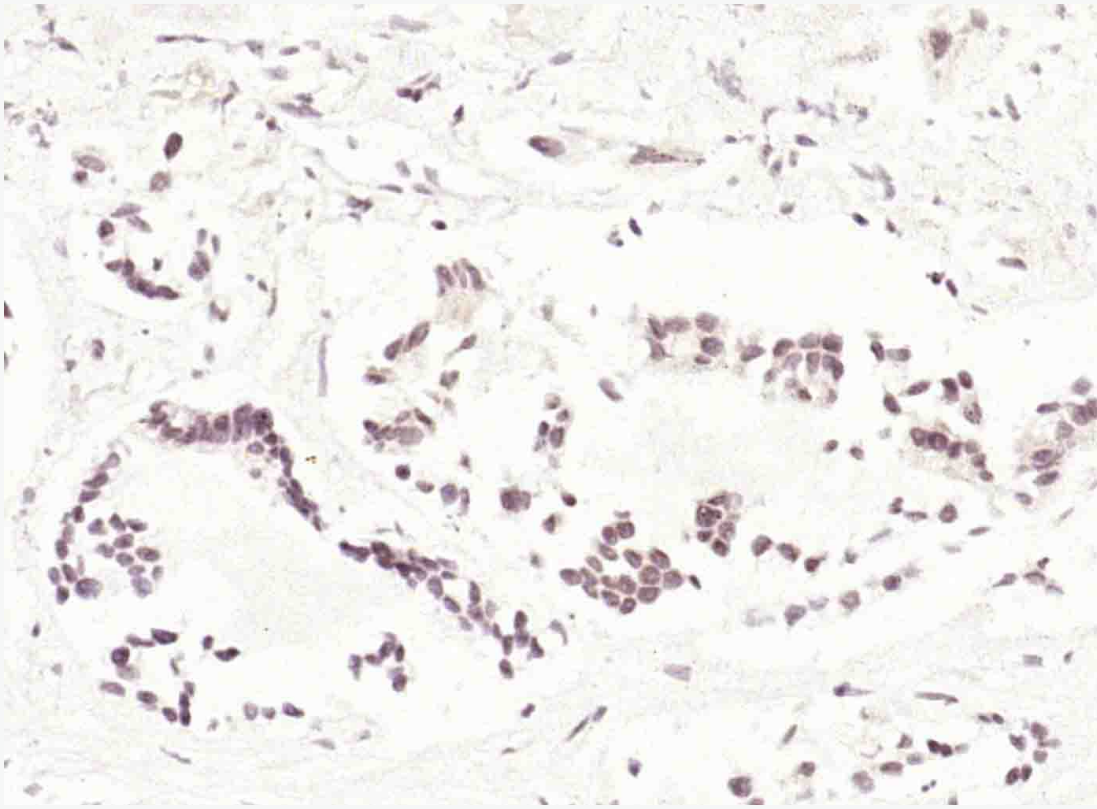
Paraformaldehyde-fixed, paraffin embedded (human gastric carcinoma); Antigen retrieval by
sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen perox
minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (
Polyclonal Antibody, Unconjugated (SL0633R) at 1:2000 overnight at 4°C, followed by opera
according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com



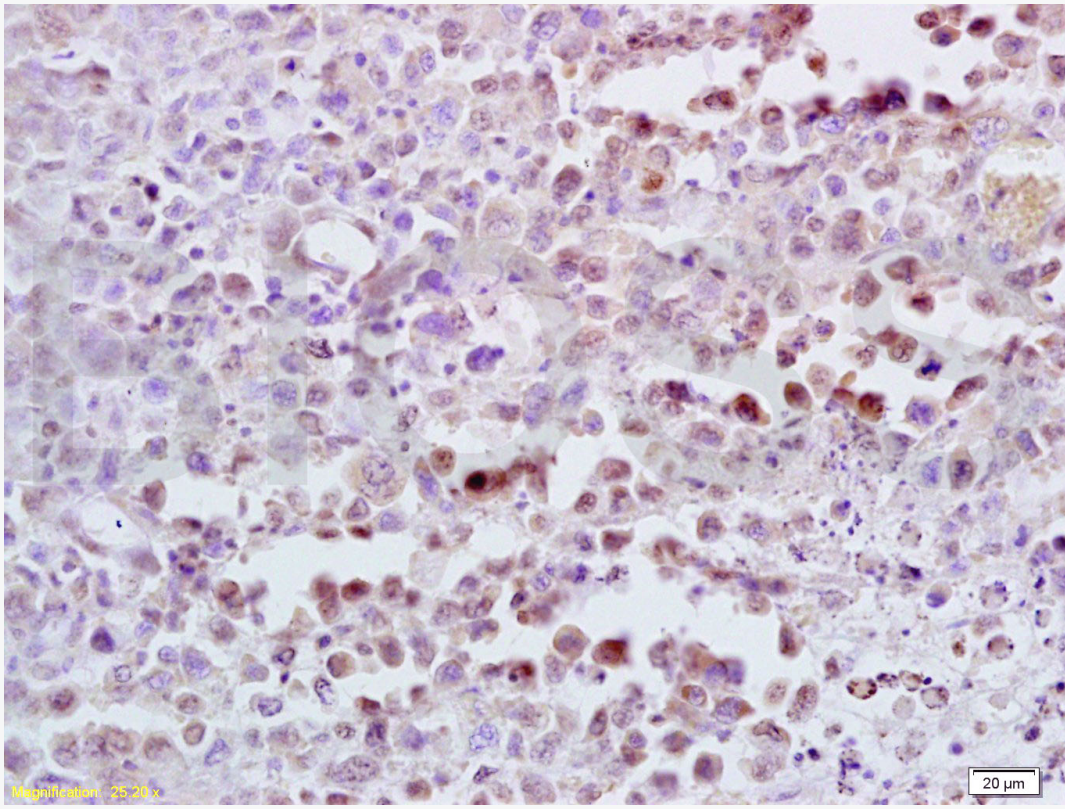
Paraformaldehyde-fixed, paraffin embedded (rat brain); Antigen retrieval by boiling in sodiun
buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min
Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (CDK4) Po
Antibody, Unconjugated (SL0633R) at 1:2000 overnight at 4°C, followed by operating accord
Kit(Rabbit) (sp-0023) instructionsand DAB staining.

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com



Paraformaldehyde-fixed, paraffin embedded (human gastric carcinoma); Antigen retrieval by
sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen perox
minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (
Polyclonal Antibody, Unconjugated (SL0633R) at 1:200 overnight at 4°C, followed by operat
according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com



Tissue/cell: mouse lymphoma tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

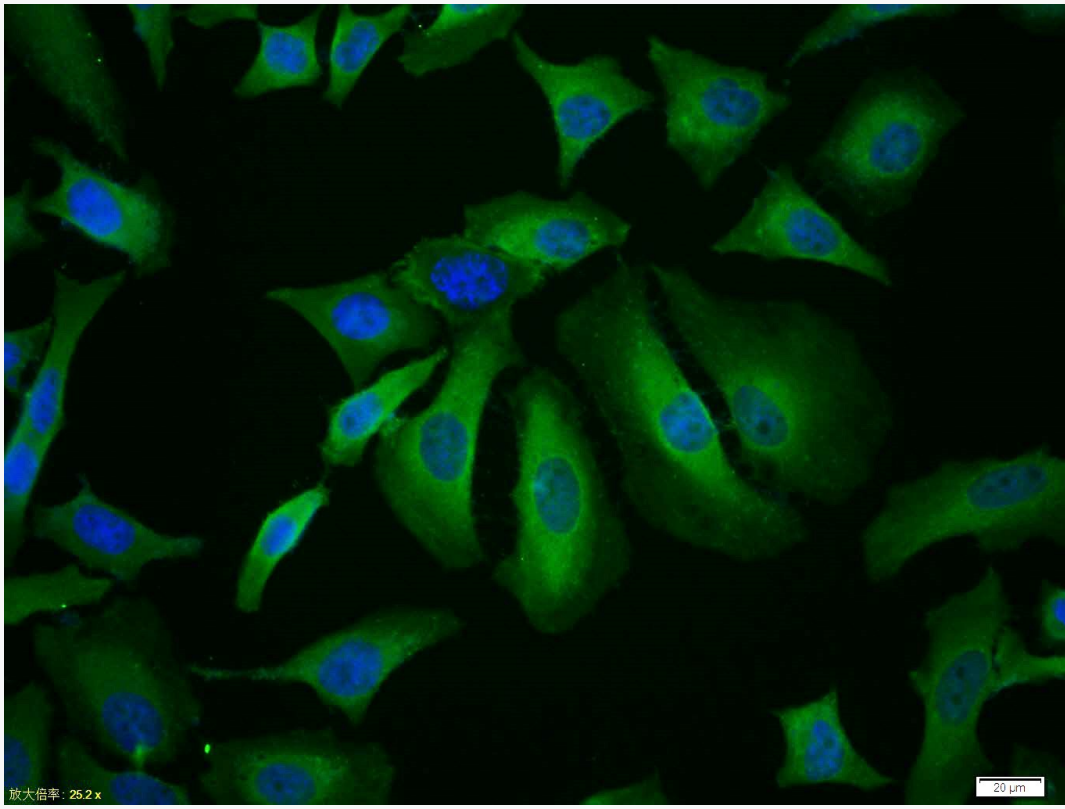
Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous

by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ fo

Incubation: Anti-CDK4 Polyclonal Antibody, Unconjugated(SL0633R) 1:300, overnight at 4°C

by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com



Tissue/cell:Hela cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 m

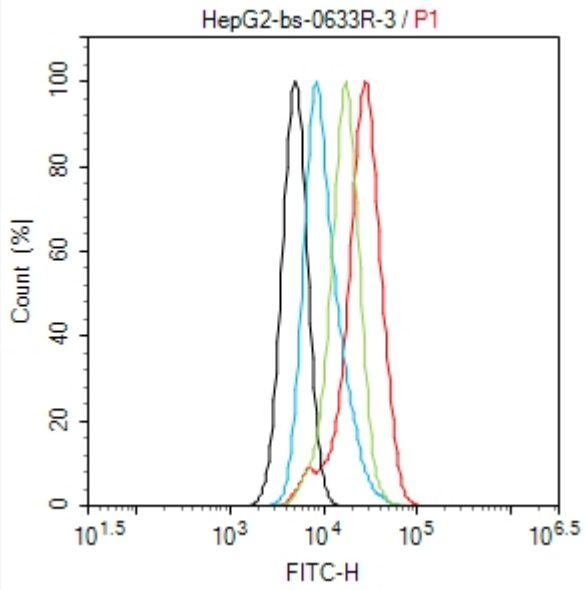
Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min; Antibody incubation with (C

polyclonal Antibody, Unconjugated (SL0633R) 1:100, 90 minutes at 37°C; followed by a FIT

conjugated Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) w

stain the cell nuclei.

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com



Blank control (black line): HepG2(black) (The cells were fixed with 2% paraformaldehyde (10

permeabilized with PBST for 30 min on room temperature)

Primary Antibody (Red line): Rabbit Anti-CDK4 antibody (SL0633R) ; Dilution: 1μg /10^6 c

Isotype Control Antibody (green line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-FITC;Dilution: 1μg /test.