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

Rabbit Anti-phospho-CDKN1A/p21 (Thr145) antibody

SL5237R

Product Name:	phospho-CDKN1A/p21 (Thr145)
Chinese Name:	磷酸化p21蛋白抗体
Alias:	p21 (phospho T145); p-p21 (phospho T145); p21Cip1 (Phospho-Thr145); Activating Fragment 1; CAP20; Cation chloride cotransporter-interacting protein 1; CDK Interacting Protein 1; CDK-interacting protein 1; CDKI; CDKN 1; CDKN1; CDKN1A; CIP1; Cyclin Dependent Kinase Inhibitor 1A; Cyclin-dependent kinase inhibitor 1; Cyclin-dependent kinase inhibitor 1A (P21); Cyclin-dependent kinase inhibitor 1A (p21, Cip1); DNA Synthesis Inhibitor; MDA 6; MDA-6; MDA6; Melanoma Differentiation Associated Protein 6; Melanoma differentiation-associated protein 6; Melanoma differentiation-associated protein; p21; P21 protein; p21CIP1; p21WAF; PIC1; SDI1; SLC12A9; WAF1; Wildtype p53 Activating Fragment 1; Wildtype p53-activated fragment 1; CDN1A_HUMAN.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,
Applications:	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800Flow-Cyt=3ug/TestIF=1:100-500（Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	18kDa
Cellular localization:	The nucleuscytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated Synthesised phosphopeptide derived from human CDKN1A around the phosphorylation site of Thr145:RQ(p-T)S
Lsotype:	IgG
Purification:	affinity purified by Protein A

Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	This gene encodes a potent cyclin-dependent kinase inhibitor. The encoded protein binds to and inhibits the activity of cyclin-CDK2 or -CDK4 complexes, and thus functions as a regulator of cell cycle progression at G1. The expression of this gene is tightly controlled by the tumor suppressor protein p53, through which this protein mediates the p53-dependent cell cycle G1 phase arrest in response to a variety of stress stimuli. This protein can interact with proliferating cell nuclear antigen (PCNA), a DNA polymerase accessory factor, and plays a regulatory role in S phase DNA replication and DNA damage repair. This protein was reported to be specifically cleaved by CASP3-like caspases, which thus leads to a dramatic activation of CDK2, and may be instrumental in the execution of apoptosis following caspase activation. Two alternatively spliced variants, which encode an identical protein, have been reported. Two families of cyclin dependent kinase inhibitors (CKIs) have been identified. The p21WAF1/Cip1 family inhibits all kinases involved in the G1/S transition. The p16INK4a family inhibits Cdk4 and Cdk6 specifically. **Function:** May be the important intermediate by which p53/TP53 mediates its role as an inhibitor of cellular proliferation in response to DNA damage. Binds to and inhibits cyclin-dependent kinase activity, preventing phosphorylation of critical cyclin-dependent kinase substrates and blocking cell cycle progression. Functions in the nuclear localization and assembly of cyclin D-CDK4 complex and promotes its kinase activity towards RB1. At higher stoichiometric ratios, inhibits the kinase activity of the cyclin D-CDK4 complex. **Subunit:** Interacts with HDAC1; the interaction is prevented by competitive binding of C10orf90/FATS to HDAC1 facilitating acetylation and protein stabilization of CDKN1A/p21. Interacts with MKRN1. Interacts with PSMA3. Interacts with PCNA. Component of the ternary complex, cyclin D-CDK4-CDKN1A. Interacts (via its N-terminal domain) with CDK4; the interaction promotes the assembly of the cyclin D-CDK4 complex, its nuclear translocation and promotes the cyclin D-dependent enzyme activity of CDK4. Binding to CDK2 leads to CDK2/cyclin E inactivation at the G1-S phase DNA damage checkpoint, thereby arresting cells at the G1-S transition during DNA repair. Interacts with PIM1. **Subcellular Location:** Cytoplasmic and Nuclear. **Tissue Specificity:** Expressed in all adult tissues, with 5-fold lower levels observed in the brain.

Post-translational modifications:
Phosphorylation of Thr-145 by Akt or of Ser-146 by PKC impairs binding to PCNA. Phosphorylation at Ser-114 by GSK3-beta enhances ubiquitination by the DCX(DTL) complex. Phosphorylation of Thr-145 by PIM2 enhances CDKN1A stability and inhibits cell proliferation. Phosphorylation of Thr-145 by PIM1 results in the relocation of CDKN1A to the cytoplasm and enhanced CDKN1A protein stability.
Ubiquitinated by MKRN1; leading to polyubiquitination and 26S proteasome-dependent degradation. Ubiquitinated by the DCX(DTL) complex, also named CRL4(CDT2) complex, leading to its degradation during S phase or following UV irradiation. Ubiquitination by the DCX(DTL) complex is essential to control replication licensing and is PCNA-dependent: interacts with PCNA via its PIP-box, while the presence of the containing the 'K+4' motif in the PIP box, recruit the DCX(DTL) complex, leading to its degradation.
Acetylation leads to protein stability. Acetylated in vitro on Lys-141, Lys-154, Lys-161 and Lys-163. Deacetylation by HDAC1 is prevented by competitive binding of C10orf90/FATS to HDAC1.

Similarity:
Belongs to the CDI family.

SWISS:
P38936

Gene ID:
1026

Database links:

Entrez Gene: 1026Human

Entrez Gene: 12575Mouse

Entrez Gene: 114851Rat

Omim: 116899Human

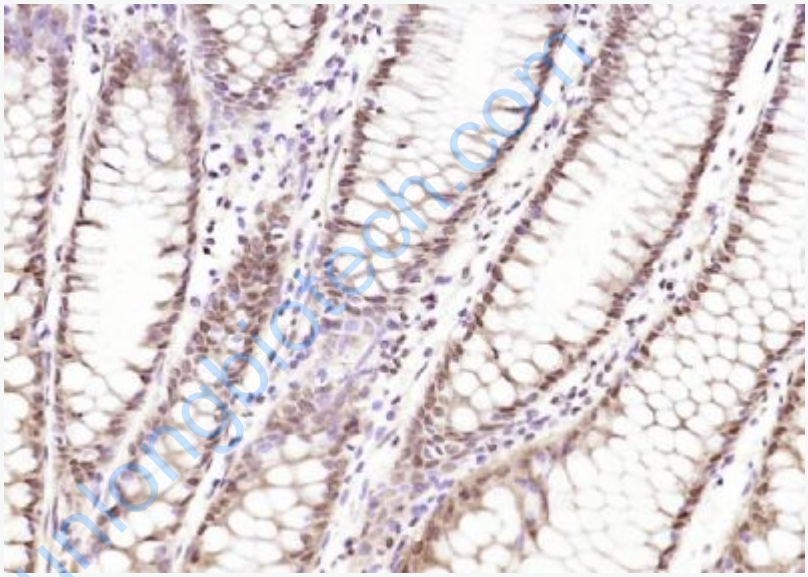
SwissProt: P38936Human

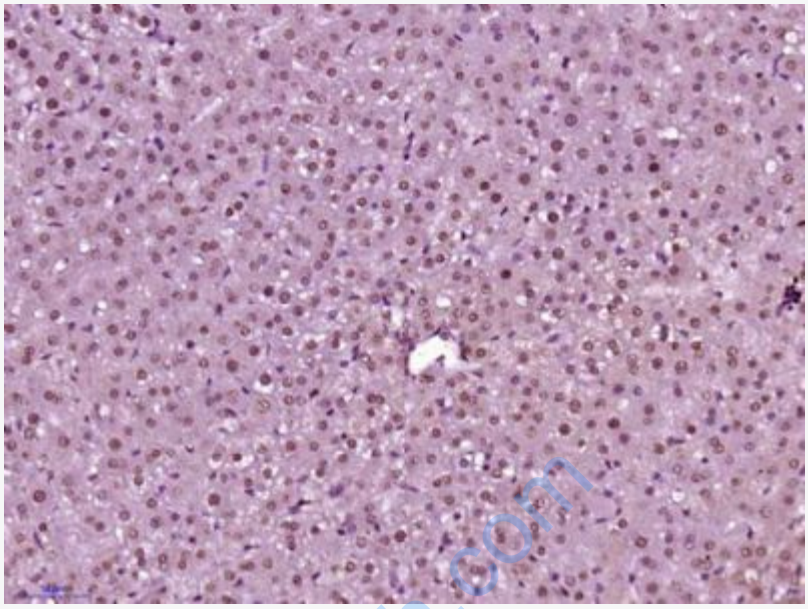
SwissProt: P39689Mouse

Unigene: 370771Human

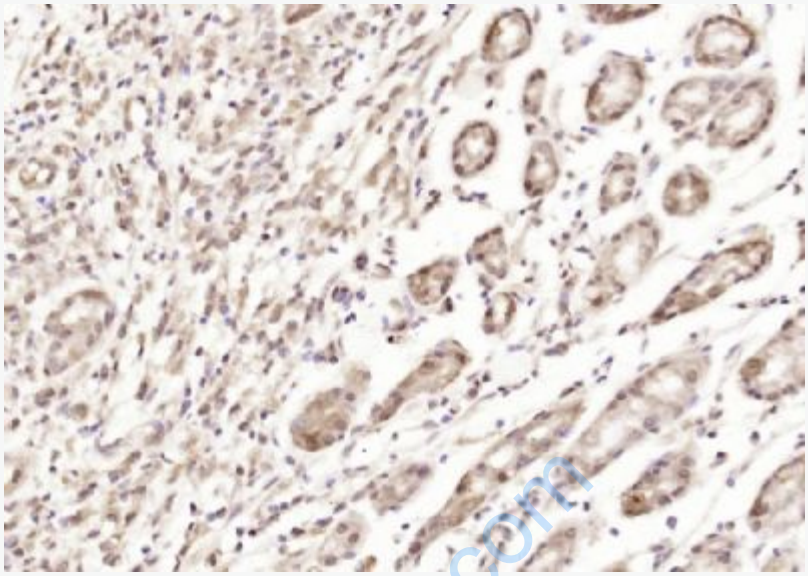
Unigene: 195663Mouse

Unigene: 10089Rat

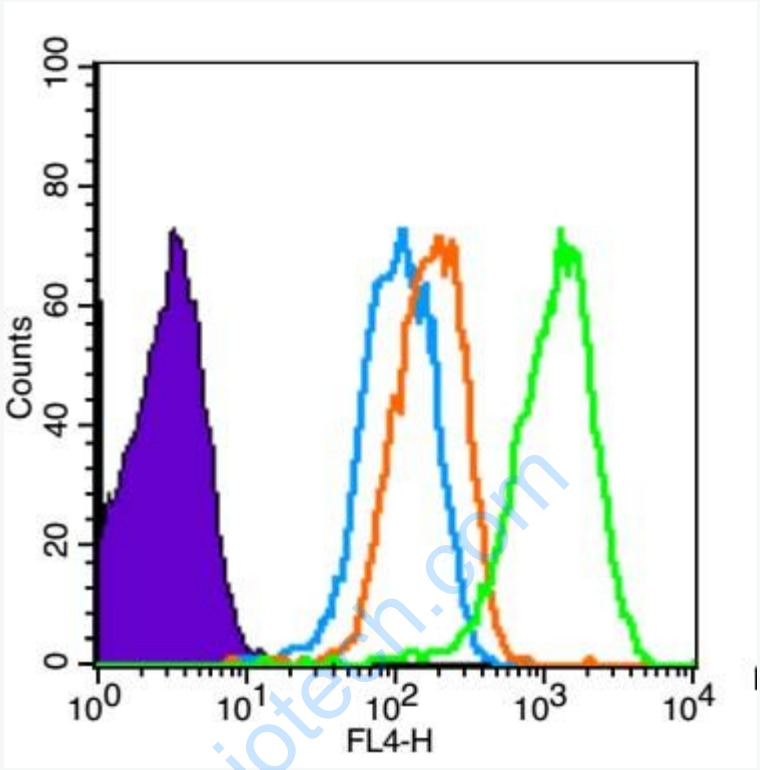
	Important Note: This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. p21蛋白的过度表达与Tumour的类型、恶性度、分期以及病人的预后密切相关。主要用于胃肠道癌肿、乳腺癌、肺癌等恶性Tumour的研究。
Picture:	 Paraformaldehyde-fixed, paraffin embedded (human colon carcinoma); Antigen retrieval 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 (phospho-CDKN1Ap21 (Thr145)) Polyclonal Antibody, Unconjugated (SL5237R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



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 (phospho-CDKN1A (Thr145)) Polyclonal Antibody, Unconjugated (SL5237R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Paraformaldehyde-fixed, paraffin embedded (human gastric carcinoma); 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 (phospho-CDKN1Ap21 (Thr145)) Polyclonal Antibody, Unconjugated (SL5237R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Blank control (Black line): U87MG (Black).

Primary Antibody (green line): Rabbit Antiphospho-CDKN1A?p21 (Thr145) antibody (SL5237R)

Dilution: 3μg /10^6 cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-AF647

Dilution: 1μg /test.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at room temperature. The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for

	30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 10,000 events was performed.