Rabbit p27 Kip1 Polyclonal Antibody | anti-CDKN1B antibody

Phospho-p27 Kip1 (Thr187) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321630	**Rabbit**	**Human, Mouse, Rat**	**ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot**

PRODUCT SYNONYMS

p27 Kip1; Polyclonal Antibody; Phospho-p27 Kip1 (Thr187) Antibody; AA408329; AI843786; Cdki1b; CDKN 1B; CDKN 4; CDKN1B; CDKN4; CDN1B_HUMAN; Cyclin Dependent Kinase Inhibitor 1B; Cyclin dependent kinase inhibitor p27; Cyclin-dependent kinase inhibitor 1B (p27; Kip1); Cyclin-dependent kinase inhibitor 1B; Cyclin-dependent kinase inhibitor p27; Cyclin-dependent kinase inhibitor p27 Kip1; KIP 1; KIP1; MEN1B; MEN4; OTTHUMP00000195098; OTTHUMP00000195099; p27; P27-like cyclin-dependent kinase inhibitor; p27Kip1; anti-CDKN1B antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-p27 Kip1 (Thr187) antibody detects endogenous levels of p27 Kip1 only when phosphorylated at Threonine 187
Purity/Purification	From purified rabbit serum by affinity purification via sequential chromatography on phospho-and non-phospho-peptide affinity columns.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	198
Applicable Applications for anti-CDKN1B antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human p27 Kip1 around the phosphorylation site of Threonine 187
Subcellular Location	Nucleus. Cytoplasm. Endosome. Nuclear and cytoplasmic in quiescent cells. AKT-or RSK-mediated phosphorylation on Thr-198, binds 14-3-3, translocates to the cytoplasm and promotes cell cycle progression. Mitogen-activated UHMK1 phosphorylation on Ser-10 also results in translocation to the cytoplasm and cell cycle progression. Phosphorylation on Ser-10 facilitates nuclear export. Translocates to the nucleus on phosphorylation of Tyr-88 and Tyr-89. Colocalizes at the endosome with SNX6 and this leads to lysosomal degradation.
Tissue Specificity	Expressed in all tissues tested. Highest levels in skeletal muscle, lowest in liver and kidney.
Predicted Cross Reactivity	**Bovine, Sheep, Rabbit, Dog, Chicken**
Similarity	Bovine (100%), Sheep (100%), Rabbit (100%), Dog (100%), Chicken (90%)
Conjugation	Unconjugated
Epitope	Phospho Thr187
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES

WB (Western Blot)
Western blot analysis of p27 Kip1 phosphorylation expression in EGF treated HeLa whole cell lysates, The lane on the left is treated with the antigen-specific peptide.

IF (Immunofluorescence)
AAA321630 staining A2780 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.

IHC (Immunohiostchemistry)
AAA321630 at 1/100 staining Mouse liver tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

WB (Western Blot)
Western blot analysis of Phospho-p27 Kip1 (Thr187) expression in various lysates

ADDITIONAL INFORMATION

Related Product Information for anti-CDKN1B antibody	Description: This gene encodes a cyclin-dependent kinase inhibitor, which shares a limited similarity with CDK inhibitor CDKN1A/p21. The encoded protein binds to and prevents the activation of cyclin E-CDK2 or cyclin D-CDK4 complexes, and thus controls the cell cycle progression at G1. Function: Important regulator of cell cycle progression. Inhibits the kinase activity of CDK2 bound to cyclin A, but has little inhibitory activity on CDK2 bound to SPDYA (PubMed:28666995). Involved in G1 arrest. Potent inhibitor of cyclin E-and cyclin A-CDK2 complexes. Forms a complex with cyclin type D-CDK4 complexes and is involved in the assembly, stability, and modulation of CCND1-CDK4 complex activation. Acts either as an inhibitor or an activator of cyclin type D-CDK4 complexes depending on its phosphorylation state and/or stoichometry. Subunit Structure: Forms a ternary complex composed of CCNE1, CDK2 and CDKN1B. Interacts directly with CCNE1; the interaction is inhibited by CDK2-dependent phosphorylation on Thr-187. Interacts with COPS5, subunit of the COP9 signalosome complex; the interaction leads to CDKN1B degradation. Interacts with NUP50; the interaction leads to nuclear import and degradation of phosphorylated CDKN1B. Interacts with CCND1 and SNX6 (By similarity). Interacts (Thr-198-phosphorylated form) with 14-3-3 proteins, binds strongly YWHAQ, weakly YWHAE and YWHAH, but not YWHAB nor YWHAZ; the interaction with YWHAQ results in translocation to the cytoplasm (PubMed:14504289). Interacts with AKT1 and LYN; the interactions lead to cytoplasmic mislocation, phosphorylation of CDKN1B and inhibition of cell cycle arrest (PubMed:12042314, PubMed:12244301, PubMed:17254966). Forms a ternary complex with CCNA2 and CDK2; CDKN1B inhibits the kinase activity of CDK2 through conformational rearrangements. Interacts (unphosphorylated form) with CDK2. Forms a complex with CDK2 and SPDYA, but does not directly interact with SPDYA (PubMed:12972555, PubMed:28666995). Forms a ternary complex composed of cyclin D, CDK4 and CDKN1B. Interacts (phosphorylated on Tyr-88 and Tyr-89) with CDK4; the interaction is required for cyclin D and CDK4 complex assembly, induces nuclear translocation and activates the CDK4 kinase activity. Interacts with GRB2 (PubMed:16195327). Interacts with PIM1 (PubMed:18593906). Identified in a complex with SKP1, SKP2 and CKS1B (PubMed:16209941). Interacts with UHMK1; the interaction leads to cytoplasmic mislocation, phosphorylation of CDKN1B and inhibition of cell cycle arrest (PubMed:12093740). Interacts also with CDK1 (PubMed:16007079). Dephosphorylated on Thr-187 by PPM1H, leading to CDKN1B stability (PubMed:22586611). Post-translational Modifications: Phosphorylated; phosphorylation occurs on serine, threonine and tyrosine residues. Phosphorylation on Ser-10 is the major site of phosphorylation in resting cells, takes place at the G0-G1 phase and leads to protein stability. Phosphorylation on other sites is greatly enhanced by mitogens, growth factors, cMYC and in certain cancer cell lines. The phosphorylated form found in the cytoplasm is inactivate. Phosphorylation on Thr-198 is required for interaction with 14-3-3 proteins. Phosphorylation on Thr-187, by CDK1 and CDK2 leads to protein ubiquitination and proteasomal degradation. Tyrosine phosphorylation promotes this process. Phosphorylation by PKB/AKT1 can be suppressed by LY294002, an inhibitor of the catalytic subunit of PI3K. Phosphorylation on Tyr-88 and Tyr-89 has no effect on binding CDK2, but is required for binding CDK4. Dephosphorylated on tyrosine residues by G-CSF. Ubiquitinated; in the cytoplasm by the KPC complex (composed of RNF123/KPC1 and UBAC1/KPC2) and, in the nucleus, by SCF(SKP2). The latter requires prior phosphorylation on Thr-187. Ubiquitinated; by a TRIM21-containing SCF(SKP2)-like complex; leads to its degradation. Subject to degradation in the lysosome. Interaction with SNX6 promotes lysosomal degradation (By similarity). Similarity: A peptide sequence containing only AA 28-79 retains substantial Kip1 cyclin A/CDK2 inhibitory activity. Belongs to the CDI family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4757962
NCBI GeneID	1027
NCBI Accession #	NP_004055.1
NCBI GenBank Nucleotide #	NM_004064.4
UniProt Accession #	P46527; Q16307; Q5U0H2; Q9BUS6
Molecular Weight	Observed: 27 kDa Predicted: 23 kDa
NCBI Official Full Name	cyclin-dependent kinase inhibitor 1B
NCBI Official Synonym Full Names	cyclin dependent kinase inhibitor 1B
NCBI Official Symbol	CDKN1B
NCBI Official Synonym Symbols	KIP1; MEN4; CDKN4; MEN1B; P27KIP1

NCBI Protein Information	cyclin-dependent kinase inhibitor 1B
UniProt Protein Name	Cyclin-dependent kinase inhibitor 1B
UniProt Gene Name	**CDKN1B**
UniProt Synonym Gene Names	KIP1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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