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PPP1R10 Rabbit pAb

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Catalog # AP54589

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q96QC0
Reactivity	Human
Predicted	Rat, Pig, Dog, Mouse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	99058
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PPP1R10
Epitope Specificity	151-250/940
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus. Note=Found in discrete nucleoplasmic bodies and within nucleoli. Associates with chromatin during interphase, excluded from condensed chromosomes during early mitosis and is reloaded onto chromosomes at the late telophase
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Eukaryotic protein phosphorylation and dephosphorylation on serine and threonine residues regulates numerous cell functions, including division, homeostasis and apoptosis. A group of proteins that play a major role in this process are the serine/threonine protein phosphatases. Protein phosphatase (PP) holoenzyme is a trimeric complex that contains a regulatory subunit, a variable subunit and a catalytic subunit. Families of PP catalytic subunits include PP1, PP2A, PP2B, PP2C, PPX and PP5. Regulatory subunits include nuclear inhibitor of PP1 (NIPP1), PP1 nuclear targeting subunit (PNUTS), PP2A-A, PP2A-B, PP2A-B56, PP2A-C, PP2B-B and PR48. PNUTS, also designated CAT53 or FB19, is encoded by the gene PPP1R10. PNUTS acts as an inhibitor for the phosphatase activity of PP1 Alpha and PP1 Gamma. It is a nuclear protein primarily detected in nucleoplasmic bodies and within nucleoli. PNUTS expression levels are highest in brain, heart, lung, placenta, liver, kidney, pancreas and skeletal muscle.

Additional Information

Gene ID	5514
Other Names	Serine/threonine-protein phosphatase 1 regulatory subunit 10, MHC class I region proline-rich protein CAT53 {ECO:0000303|Ref.2}, PP1-binding protein of 114 kDa, Phosphatase 1 nuclear targeting subunit, p99, PPP1R10

(HGNC:9284)

Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:50-200,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. 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.

Protein Information

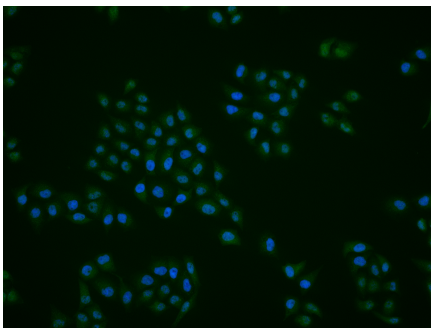
Name	PPP1R10 (HGNC:9284)
Function	Substrate-recognition component of the PNUTS-PP1 protein phosphatase complex, a protein phosphatase 1 (PP1) complex that promotes RNA polymerase II transcription pause-release, allowing transcription elongation (PubMed:39603239, PubMed:39603240). Promoter- proximal pausing by RNA polymerase II is a transcription halt following transcription initiation but prior to elongation, which acts as a checkpoint to control that transcripts are favorably configured for transcriptional elongation (PubMed:39603239, PubMed:39603240). The PNUTS-PP1 complex mediates the release of RNA polymerase II from promoter-proximal region of genes by catalyzing dephosphorylation of proteins involved in transcription, such as AFF4, CDK9, MEPCE, INTS12, NCBP1, POLR2M/GDOWN1 and SUPT6H (PubMed:39603239, PubMed:39603240). The PNUTS-PP1 complex also regulates RNA polymerase II transcription termination by mediating dephosphorylation of SUPT5H in termination zones downstream of poly(A) sites, thereby promoting deceleration of RNA polymerase II transcription (PubMed:31677974). PNUTS-PP1 complex is also involved in the response to replication stress by mediating dephosphorylation of POLR2A at 'Ser-5' of the CTD, promoting RNA polymerase II degradation (PubMed:33264625). The PNUTS-PP1 complex also plays a role in the control of chromatin structure and cell cycle progression during the transition from mitosis into interphase (By similarity). PNUTS-PP1 complex mediates dephosphorylation of MYC, promoting MYC stability by preventing MYC ubiquitination by the SCF(FBXW7) complex (PubMed:30158517). In addition to acts as a substrate-recognition component, PPP1R10/PNUTS also acts as a nuclear targeting subunit for the PNUTS-PP1 complex (PubMed:9450550). In some context, PPP1R10/PNUTS also acts as an inhibitor of protein phosphatase 1 (PP1) activity by preventing access to substrates, such as RB (PubMed:18360108).
Cellular Location	Nucleus {ECO:0000255|PROSITE-ProRule:PRU00649, ECO:0000269|PubMed:9450550}. Chromosome. Note=Found in discrete nucleoplasmic bodies and within nucleoli (PubMed:9450550). Associates with RNA polymerase II (Pol II) on chromatin during pause-release checkpoint (PubMed:39603239, PubMed:39603240). Associates with chromatin during interphase, excluded from condensed chromosomes during early mitosis and is reloaded onto chromosomes at the late telophase (By similarity) {ECO:0000250|UniProtKB:Q80W00, ECO:0000269|PubMed:39603239, ECO:0000269|PubMed:39603240, ECO:0000269|PubMed:9450550}
Tissue Location	Expressed in heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas.

Background

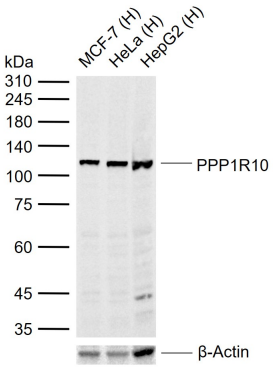
This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic

applications.

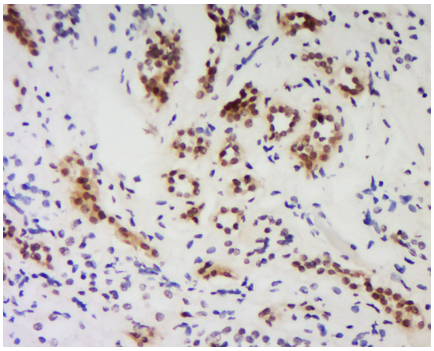
Images



Hela 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 (PPP1R10) polyclonal Antibody, Unconjugated (AP54589) 1:50, 90 minutes at 37°C; followed by a conjugated Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain the cell nuclei.



Sample:
Lane 1: Human MCF-7 cell lysates
Lane 2: Human HeLa cell lysates
Lane 3: Human HepG2 cell lysates
Primary: Anti-PPP1R10 (AP54589) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 99 kDa
Observed band size: 115 kDa



Tissue/cell: Human kidney tissue; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (0.01M, 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-ppp1R10 Polyclonal Antibody, Unconjugated(AP54589) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.