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

[Primary Antibody]

Rabbit Anti-PER1 antibody

Catalog Number: SL2350R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	PER1
Immunogen:	KLH conjugated synthetic peptide derived from human PER1 protein: 751-850/1290
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB=1:500-2000 IHC-P=1:100-500 IHC-F=1:100-500 IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human,Mouse(predicted:Rat,Dog,Pig,Cow,Horse,Rabbit)
Predicted MW.:	136kDa
Subcellular Location:	The nucleus cytoplasmic
Background:	In mammals, several genes that encode members of the basic helix-loop helix (bHLH) PAS (PER-ARNT-SIM) transcription factor family have been shown to play a significant role in regulating circadian oscillations. Transactivation of CLOCK-induced genes is mediated via an E box enhancer (CACGTG) found upstream of target genes. CLOCK-ARNT 3 heterodimers bind to E box regulatory elements and stimulate gene transcription. CLOCK has been shown to transactivate the mammalian homolog of Drosophila PER. PER, in concert with the product of the mammalian timeless gene (TIM), negatively regulates its own transcription by blocking the activity of the CLOCK-BMAL 1 transactivation complex. **Function:** Component of the circadian clock mechanism which is essential for

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	generating circadian rhythms. Negative element in the circadian transcriptional loop. Influences clock function by interacting with other circadian regulatory proteins and transporting them to the nucleus. Negatively regulates CLOCK|NPAS2-BMAL1|BMAL2-induced transactivation. Can bind heme (By similarity). **Subunit:** Component of the circadian core oscillator, which includes the CRY proteins, CLOCK or NPAS2, BMAL1 or BMAL2, CSNK1D and/or CSNK1E, TIMELESS, and the PER proteins. Interacts directly with TIMELESS, PER2, PER3 and, through a C-terminal domain, with CRY1 and CRY2. Interaction with CSNK1D or CSNK1E promotes nuclear location of PER proteins. Interacts with GPRASP1 (By similarity). Binding to CSNK1G2 triggers proteasomal degradation. **Subcellular Location:** Nucleus (By similarity). Cytoplasm (By similarity). Note=Mainly nuclear. Nucleocytoplasmic shuttling is effected by interaction with other circadian core oscillator proteins and/or by phosphorylation. Retention of PER1 in the cytoplasm occurs through PER1-PER2 heterodimer formation or by interaction with CSNK1E and/or phosphorylation which appears to mask the PER1 nuclear localization signal. Also translocated to the nucleus by CRY1 or CRY2 (By similarity). **Tissue Specificity:** Widely expressed. Found in heart, brain, placenta, lung, liver, skeletal muscle, pancreas, kidney, spleen, thymus, prostate, testis, ovary and small intestine. Highest level in skeletal muscle. Low level in kidney. **Post-translational modifications:** Phosphorylated on serine residues by CSNK1E. Also can be phosphorylated by the delta isoform. Phosphorylation by CSNK1 retains PER1 in the cytoplasm and leads to its ubiquitination and subsequent degradation. Ubiquitinated (By similarity). **Similarity:** Contains 1 PAC (PAS-associated C-terminal) domain. Contains 2 PAS (PER-ARNT-SIM) domains. **Database links:** **Entrez Gene:** 516318 Cow **Entrez Gene:** 489488 Dog **Entrez Gene:** 100731177 Guinea pig **Entrez Gene:** 100073046 Horse **Entrez Gene:** 5187 Human **Entrez Gene:** 18626 Mouse **Entrez Gene:** 100151739 Pig **Entrez Gene:** 287422 Rat Omim: 602260 Human **SwissProt:** O15534 Human

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	SwissProt: O35973 Mouse **SwissProt:** Q8CHI5 Rat **Unigene:** 445534 Human **Unigene:** 7373 Mouse **Unigene:** 34433 Rat Per1 protein is a core gene in the regulation of the body's physiological rhythm and is also an important protein affecting the occurrence and development of tumors. It regulates the body's physiological rhythm, controls the cell cycle, and promotes DNA damage repair. Per1 is widely involved in processes such as cell cycle regulation, DNA damage repair, apoptosis, and tumor cell proliferation.

[VALIDATION IMAGES]

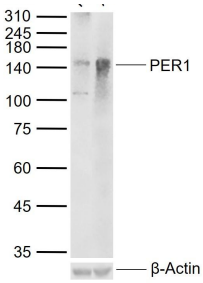


Figure 1. Sample: Lane 1: Human HeLa cell lysates Lane 2: Human A549 cell lysates Primary: Anti-PER1 (SL2350R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 136 kDa Observed band size: 142 kDa

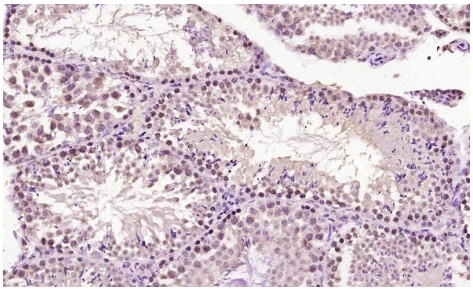


Figure 2. Paraformaldehyde-fixed, paraffin embedded (Mouse testis); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PER1 protein) Polyclonal Antibody, Unconjugated (SL2350R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

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