



Rabbit Anti-PER2/Period circadian protein 2 antibody

SL23387R

Product Name:	PER2/Period circadian protein 2
Chinese Name:	节律蛋白2抗体
Alias:	Circadian clock protein PERIOD 2; FASPS; hPER 2; hPER2; KIAA0347; PER 2; PER2; Period 2; Period 2 isoform 1; Period circadian protein 2; Period circadian protein homolog 2; Period homolog 2; Period2; FASPS; PER2_HUMAN.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,
Applications:	ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800ICC=1:100-500IF=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:	138kDa
Cellular localization:	The nucleuscytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human PER2/Period circadian protein 2:731-830/1255
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:	PER2, a mammalian homologue of the Drosophila period gene, shares a 40% homology with PER1 including the protein dimerization PAS domain. PER2 is a circadian

regulator that may act as a transcription factor. It behaves as a negative element in circadian transcriptional loop. PER2 does not appear to bind DNA, suggesting indirect transcriptional inhibition. Expression oscillates with a 24 hour rhythm in the suprachiasmatic nucleus (SCN) and the whole eyes. Oscillations are maintained under constant darkness and are responsive to changes of the light/dark cycles. There is a 4 hour time delay between PER1 and PER2 oscillations. The expression rhythms appear to originate from retina.

Function:

Component of the circadian clock mechanism which is essential for 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

Subunit:

Homodimer. 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 PER1 and PER3, and through a C-terminal domain, with CRY1 and CRY2. Interaction with CSNK1D or CSNK1E promotes nuclear location of PER proteins. Interacts, via its second PAS domain, with TIMELESS in vitro. Interacts with NFIL3 (By similarity). Interacts with PML (By similarity).

Subcellular Location:

Nucleus. Cytoplasm. 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 PER nuclear localization signal. Also translocated to the nucleus by CRY1 or CRY2.

Tissue Specificity:

Widely expressed. Found in heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. High levels in skeletal muscle and pancreas. Low level in lung.

Post-translational modifications:

Phosphorylated by CSNK1E and CSNK1D. Phosphorylation results in PER2 protein degradation.

DISEASE:

Defects in PER2 are a cause of familial advanced sleep-phase syndrome (FASPS) [MIM:604348]. FASPS is characterized by very early sleep onset and offset. Individuals are 'morning larks' with a 4 hours advance of the sleep, temperature and melatonin rhythms.

Similarity:

Contains 1 PAC (PAS-associated C-terminal) domain.

Contains 2 PAS (PER-ARNT-SIM) domains.

SWISS:
O15055

Gene ID:
8864

Database links:

[Entrez Gene: 8864](#)Human

[Entrez Gene: 18627](#)Mouse

[Omim: 603426](#)Human

[SwissProt: O15055](#)Human

[SwissProt: O54943](#)Mouse

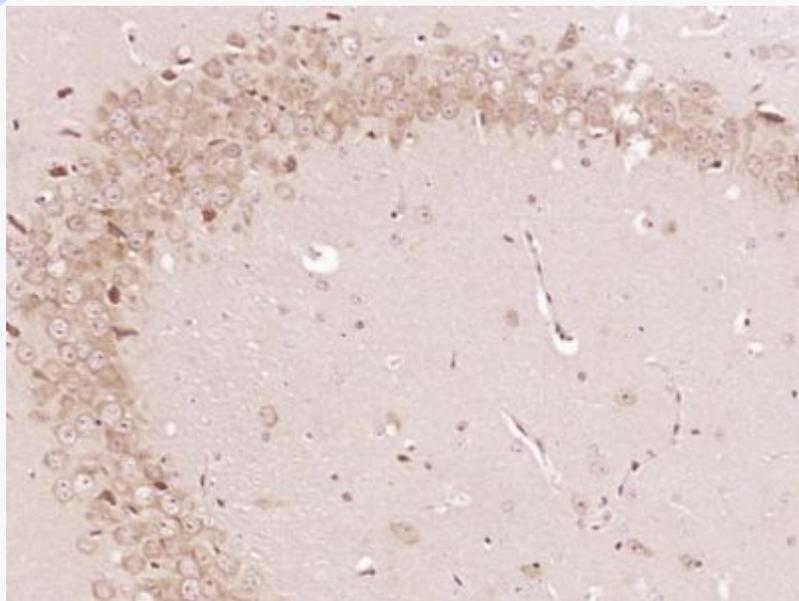
[Unigene: 58756](#)Human

[Unigene: 218141](#)Mouse

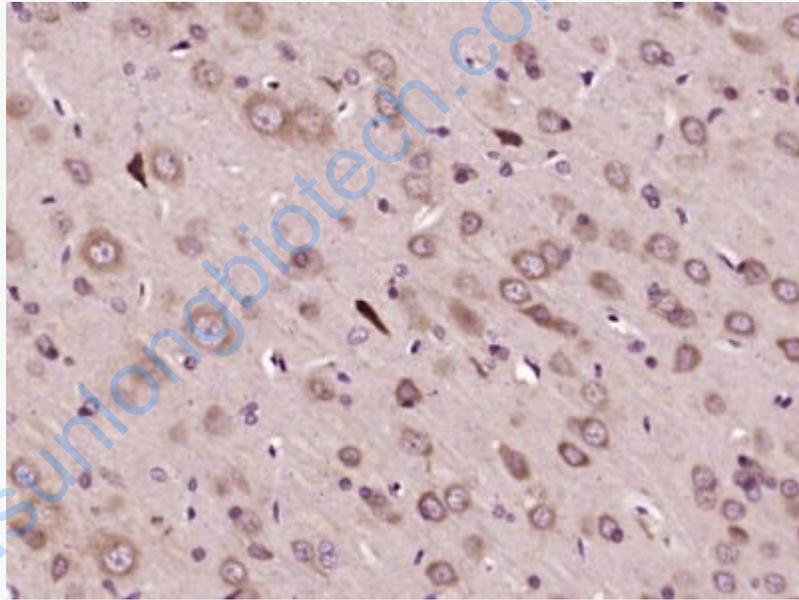
Important Note:

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

Picture:



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); 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 (PER2/Period circadian protein 2) Polyclonal Antibody, Unconjugated (SL23387R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Paraformaldehyde-fixed, paraffin embedded (Rat brain); 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 (PER2/Period circadian protein 2) Polyclonal Antibody, Unconjugated (SL23387R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.