Product Name: **Per2 Rabbit Polyclonal Antibody**
Catalog #: **APRab15969**
For research use only.

Summary

Description	Rabbit polyclonal Antibody
Host	Rabbit
Application	IHC,ICC/IF,ELISA
Reactivity	Human,Mouse
Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Polyclonal
Form	Liquid
Concentration	1mg/ml
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Liquid in PBS containing 50% glycerol, 0.5% protective protein and 0.02% New type preservative N.
Purification	Affinity purification

Application

Dilution Ratio	IHC 1:100-1:300,ICC/IF 1:200-1:1000,ELISA 1:5000-1:10000
Molecular Weight	

Antigen Information

Gene Name	PER2
Alternative Names	PER2; KIAA0347; Period circadian protein homolog 2; hPER2; Circadian clock protein PERIOD 2
Gene ID	8864.0
SwissProt ID	O15055
Immunogen	The antiserum was produced against synthesized peptide derived from human Period Circadian Protein 2. AA range:636-685

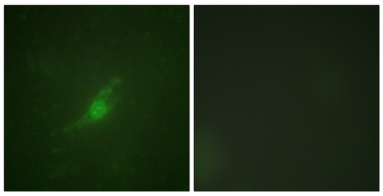
Background

This gene is a member of the Period family of genes and is expressed in a circadian pattern in the suprachiasmatic nucleus, the primary circadian pacemaker in the mammalian brain. Genes in this family encode components of the circadian rhythms of locomotor activity, metabolism, and behavior. This gene is upregulated by CLOCK/ARNTL heterodimers but then represses this upregulation in a feedback loop using PER/CRY heterodimers to interact with CLOCK/ARNTL. Polymorphisms in this gene may increase the risk of getting certain cancers and have been linked to sleep disorders. [provided by RefSeq, Jan 2014],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.,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|BMAL2-induced transactivation.,induction:Serum-induced levels in fibroblasts show circadian oscillations. Maximum levels after 1 hour stimulation, minimum levels after 12 hours. Another peak is then observed after 24 hours.,PTM:Phosphorylated by CSNK1E and CSNK1D. Phosphorylation results in PER2 protein degradation.,similarity:Contains 1 PAC (PAS-associated C-terminal) domain.,similarity:Contains 2 PAS (PER-ARNT-SIM) domains.,subcellular location: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.,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 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.,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.,

Research Area

Circadian rhythm;

Image Data



Immunofluorescence analysis of NIH/3T3 cells, using Period Circadian Protein 2 Antibody. The picture on the right is blocked with the synthesized peptide.