

## Immunotag™ Per2 Polyclonal Antibody

Antibody Specification	
Catalog No.	ITT3663
Product Description	Immunotag™ Per2 Polyclonal Antibody
Size	50 µg, 100 µg
Conjugation	HRP, Biotin, FITC, Alexa Fluor® 350, Alexa Fluor® 405, Alexa Fluor® 488, Alexa Fluor® 555, Alexa Fluor® 594, Alexa Fluor® 647
IMPORTANT NOTE	This product is custom manufactured with a lead time of 3-4 weeks. Once in production, this item cannot be cancelled from an order and is not eligible for return.
Target Protein	PER2
Clonality	Polyclonal
Storage/Stability	-20°C/1 year
Application	IHC-p,IF,ELISA
Recommended Dilution	Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/5000. Not yet tested in other applications.
Concentration	1 mg/ml
Reactive Species	Human,Mouse
Host Species	Rabbit
Immunogen	The antiserum was produced against synthesized peptide derived from human Period Circadian Protein 2. AA range:636-685
Specificity	Per2 Polyclonal Antibody detects endogenous levels of Per2 protein.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen
Form	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Gene Name	PER2
Accession No.	O15055 O54943
Alternate Names	PER2; KIAA0347; Period circadian protein homolog 2; hPER2; Circadian clock protein PERIOD 2

## Antibody Specification

Description	period circadian clock 2(PER2) Homo sapiens 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],
Cell Pathway/ Category	Circadian rhythm,
Protein Expression	Brain,
Subcellular Localization	nucleus,nucleoplasm,nucleolus,cytoplasm,perinuclear region of cytoplasm,
Protein Function	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.,
Usage	For Research Use Only! Not for diagnostic or therapeutic procedures.