

Product Specification Sheet

Per1 (mPer1/mRIGUI) Antibodies

Cat. PER13-S	Chicken Anti-Mouse Per 1 antiserum #3	SIZE: 100 ul
Cat. PER13-A	Chicken Anti-Mouse Per 1 IgG #3, aff pure	SIZE: 100 ug
Cat. PER13-P	Mouse Per 1 Control/blocking peptide #3	SIZE: 100 ug

Several endogenous factors have been linked to rhythmicity or circadian behavior of living organisms. In *Drosophila*, the genes *period* (**dPer**) and *timeless* (*tim*), and in *Neurospora frequency* (*freq*), have been proposed to be responsible for their circadian rhythm. Recently human and mouse genes encoding a basic helix-loop-helix (bHLH) and Per-ARNT-Sim (PAS)-domain with significant similarity to the *Drosophila* Period have been reported. The cDNA sequences of *hPER* and *mPer1* (also named *RIGUI*) are predicted to encode for proteins of length 1290 and 1291 amino acids respectively. Homologues of mPer1 designated **Per 2** (1257 aa) and **Per3** (1113 aa) have also been cloned. Both Per1 and Per2 levels show circadian rhythm in the SCN and eyes. It has been suggested that *mPer* regulates neuronal activity in the SCN. Using genetic approach, a single mutation (A to T in the **Clock** gene affects circadian rhythmicity in mice. Clock has been mapped to chromosome 5. Mouse *Clock* encodes a transcription factor, a single polypeptide chain of 855 aa (predicted calculated mol wt ~97 kDa; pI 6.52; hClock, 846 aa). Clock is abundantly expressed in brain (SCN, pyramidal cortex, hippocampus) as well as in other tissues (eye, total brain, testes, ovaries, liver, heart, lung, and kidney). Although, *Clock* is constitutively expressed (not rhythmic) in the SCN, it may still be an important component of circadian machinery.

Source of Antigen and Antibodies

Antigen	16-aa peptide of Mouse PER; (designated PER13-P, control peptide) conjugated to KLH; Epitope location ~ Mid-region
Ab Host/type	Chicken, polyclonal Aff pure IgG (cat #PER13-A) purified over the antigen column
2-ab	Cat # 60320, goat anti-chicken IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 20010-1, Chicken (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in Buffer: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C.

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.
Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: We recommend the use of affinity purified antibody at 2-20 ug/ml.

Specificity & Cross-reactivity

The mouse PER13-P peptide sequence is 93% homologous with human Per1. No significant homology is seen with Per2, Per 3, dPER or other known proteins. Antibody crossreactivity in various species is not studied. Control peptide, because of its low mol. wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity

General References: (1) Sun SZ et al (1997) Cell 90, 1003-1011; Tei H et al (1997) Nature 389, 512-516

*This product is for *in vitro* research use only.

Citations of ADI's Per1 rabbit antibodies

Zanello SB (2000) J. Invest. Dermatol. 2000 115: 757-760

Western Blot recycling kit (Use the same blot to probe with multiple antibodies PR11, PR12, PER11, etc.) **recycle blot at room temp in 5-10 min;** No mercaptoethanol or heating required).

PER13-S-A-P 70911J