ALPHA DIAGNOSTIC INTERNATIONAL

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Product Specification Sheet

Clock Antibodies

Cat. CLO11-S	**Rabbit** Anti-Mouse Clock antiserum # 1	**SIZE**: 100 ul
Cat. CLO11-A	**Rabbit** Anti-Mouse Clock IgG #1 (aff pure)	**SIZE**: 100 ug
Cat. CLO11-P	Mouse Clock Control/blocking peptide #1	**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* (*frq*), 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 h*PER* and **m*Per1* (**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 m*Per* 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, pyrifom cortex, hippocampus) as well as in other tissues (eye, total brain, tested, 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	18-aa peptide of **mouse Clock** (protein accession #, refs 1) ; **Designated (CLO11-P or control peptide)** conjugated to KLH; epitope location ~ mapping downstream of the serine rich region **of mouse Clock**
Ab Host/type	Rabbit, Polyclonal antiserum # **CLO11**-S and IgG, purified over antigen-agarose (Cat # **CLO11**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied 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 -20OC and powder at 4oC or -20oC..

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

Stability: 6-12 months at –20oC or below.
Shipping: 4oC 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 (see refs 2 on this antibody).

Specificity & Cross-reactivity

The mouse CLO11-P peptide sequence is 94% conserved in rat , human and 81% in chicken Clock. No significant homology is seen with dPER or other known proteins. Antibody cross-reactivity with Per1 from other species is not known. 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 (see detailed protocol at the web site).

General References: (1) Antoch MP et al (1997) Cell 89, 655-667; King, D. P. et al., (1997) *Cell,* **89**, 641-653; Gekakis N et al (1998) Science 280, 1564-1569; Stevens TD et al (1999) Genomics 57, 189-200

Citations of ADI's Per1 antibodies

Gustincich S, 2004, Proc. Natl. Acad. Sci. 101 , 5069-5074
Curtis AM, 2003, J. Biol. Chem. 279, 7091-7097
Allen GC, 2004, Neuroscience, 127, 4, , 989-999
Zanello SB., 2000, J. Invest. Dermatol. 115: 757-760
Takahashi J S, 1999, Science 24; 285: 2076-2077
Allada R, 2003, EMBO J., 22: 3367 - 3375
Maywood ES, 2002, Eur. J. Neurosci. 15, 1, 216-220,
Maywood ES, 2003, J. NeuroEndocrinol. 15, 4, 329

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

Related material available from ADI

Anti-Mouse/human Per1-3, Clock, MOP3-4; Drosophila Per, dClock, dBMAL, CRY1 and CRY2.

CLO11-S-A-P 71209A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, S an Antonio, T X 7 8 24 4 , U S A;

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400
Fax: +91-11-42208444 Email: customerservice@lifetechindia.com Website: www.lifetechindia.com