ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Cryptochrome 2 (CRY2) Antibodies

□ **Cat.** CRY21-S	Rabbit Anti-Mouse Cry2 antiserum #1	**SIZE**: 100 ul
□ **Cat.** CRY21-A	Rabbit Anti-Mouse Cry2 IgG #1 (aff pure)	**SIZE**: 100 ug
□ **Cat.** CRY21-P	Mouse Cry2 Control/blocking peptide	**SIZE**: 100 ug

Circadian rhythm is one of the most fascinating and complex biological phenomenon's. The circadian clock controls biological activities on daily light-dark cycles in species from cyanobacteria to humans. The circadian clock has three major components: A photoactive pigment (chromophore) for sensing light and transmitting light signals, the circadian clock that oscillates every ~24-hrs, and the genes controlled by the circadian clock to bring about the physiological and behavioral changes. Most recently mammalian homolog of the plant blue-light photoreceptors termed **cryptochromes** have been identified. Mouse **CRY1** and **CRY2**, are 606 aa and 569 aa protein, respectively. Cry1 and Cry are specifically expressed in ganglion cell and inner nuclear layers of the mouse retina. CRY1 is expressed at high level in the SCN and oscillates in a circadian manner. Like other genes implicated in circadian mechanism, CRY1 and CRY2 are also expressed in most animal tissues. Therefore, mammalian cryptochromes appears to play an important role in entrainment of the circadian clock.

Source of Antigen and Antibodies

Antigen	22-aa peptide from **mouse CRY2 (1)**; **Designation (#CRY21-P, control/blocking peptide**) conjugated to KLH; epitope location ~ C-terminus
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (**#CRY21**-S) and IgG, purified over antigen-agarose (Cat # **CRY21**-A)
2-Ab	Cat # 20320, **goat anti-rabbit IgG-HRP** (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (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 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). See refs in 2

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

Histochemistry & Immunofluorescence: We recommend the use of aff purified IgG at 2-10 ug/ml in 4% PF-fixed and in frozen free floating sections (See published reports on this antibody in refs. 2).

Immunoprecipitation: This antibody has been used for IP (see Lee C et al in refs 2).

Specificity & Cross-reactivity

Mouse CRY21-P peptide sequence is 75% conserved in rat, 68% in human and 55% in chicken Cry2 proteins. No significant homology is seen with CRY1. Antibody cross-reactivity with CRY2 from various 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) Miyamoto Y and Sancar A (1998) 95, 6097-6102; Spek VD (1996) Genomics 37, 177-182; Kobayashi K (1997) Nucl. Acid. Res. 26, 5086-5092; Eun BK et al (2001)

2. Citations of for ADI Antibodies (see updates at the web site)
Gustincich S, 2004, Proc. Natl. Acad. Sci. 101 , 5069-5074, , IHC
Lee C, 2001, Cell 107, 855-867, WB,,
Thompson CL, 2004, Invest. Ophthalmol. Vis. Sci. 44: 4515, , IHC
Field MD, 2000, Neuron 25: 437, WB,, IHC,
hattar S, 2003, Nature. 424(6944):76-81, , IHC
Jilg A, 2005, European J.Neurosc. 22, 2845-2854, Dec 2005, , IHC,
Partch CL, 2005, Methods in Enzymology, 393, , 726-745, , IHC
Kume K, 1999, Cell 98: 193, , IHC,
Maronde E, 2007, J Pineal Res.;43(1):16-24., WB,
Fan Y, 2007, Current Biology, 17, 1091-1100, WB, IF

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

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