ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

MOP3 (BMAL1) Antibodies

Cat. MOP31-S	Rabbit Anti-Human MOP3 antiserum # 1	**SIZE**: 100 ul
Cat. MOP31-A	Rabbit Anti-Human MOP3 IgG #1 (aff pure)	**SIZE**: 100 ug
Cat. MOP31-P	Human MOP3 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. Mouse *Clock* (855 aa) 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.

Basic-helix-loop-helix-PAS orphan protein, **MOP3** (Members Of PAS Superfamily; also known as **BMAL1**/JAP3/PAS3; 626 aa) is a general dimerization partner for several PAS superfamily of transcription regulators. MOP3 interacts with **MOP4** (also known as NPAS2; 626 aa), Clock, HIF1α, and HIF2α. MOP4 is a brain specific homolog of Clock.

Source of Antigen and Antibodies

Antigen	15-aa peptide from **human MOP3 (1)**; **Designation (MOP31-P, control/blocking peptide**) conjugated to KLH; epitope location ~ C-terminus
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#MOP31-S) and IgG, purified over antigen-agarose (Cat # MOP31-A). This antibody is also raised in **chickens** (cat # MOP22-S).
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).

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. This antibody has been cited in refs. 2.

Specificity & Cross-reactivity

Human MOP31-P sequence is 100% conserved in related proteins from other species (rat TIC; human bMAL1a & bMAL1b, PAS3, JAP3, and mouse Arnt3) (2). Antibody cross-reactivity with MOP3 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 see detailed protocol at the web site).

General References: Hogenesch JB et al (1997) J Biol. Chem. 272, 8581-8593; Hogenesch JB et al (1998) PNAS 95, 5474; Wolting CD et al (1998) Mamm. Genome 9, 463.Takahata S et al (1998) BBRC 248, 789-794.

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

Related material available from ADI

Anti-Mouse/human Per1-3, Clock, MOPs, CRY1-2

MOP31-S-A-P 71209A

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