



# BMAL1 Monoclonal Antibody

|                                    |                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Catalog No</b>                  | YP-mAb-02244                                                                                                                                                                                                                                                                                                                                                                |
| <b>Isotype</b>                     | IgG                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Reactivity</b>                  | Human;Mouse;Rat                                                                                                                                                                                                                                                                                                                                                             |
| <b>Applications</b>                | WB                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Gene Name</b>                   | ARNTL                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Immunogen</b>                   | The antiserum was produced against synthesized peptide derived from human BMAL1 around the non-acetylation site of Lys538. AA range:501-550                                                                                                                                                                                                                                 |
| <b>Specificity</b>                 | BMAL1 Monoclonal Antibody detects endogenous levels of BMAL1 protein only when acetylation at K538.                                                                                                                                                                                                                                                                         |
| <b>Formulation</b>                 | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.                                                                                                                                                                                                                                                                                                     |
| <b>Source</b>                      | Monoclonal, Mouse,IgG                                                                                                                                                                                                                                                                                                                                                       |
| <b>Purification</b>                | The antibody was affinity-purified from mouse antiserum by affinity-chromatography using epitope-specific immunogen.                                                                                                                                                                                                                                                        |
| <b>Dilution</b>                    | WB 1:500-1:2000                                                                                                                                                                                                                                                                                                                                                             |
| <b>Concentration</b>               | 1 mg/ml                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Purity</b>                      | ≥90%                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Storage Stability</b>           | -20°C/1 year                                                                                                                                                                                                                                                                                                                                                                |
| <b>Synonyms</b>                    | ARNTL;ARNT3;Aryl hydrocarbon receptor nuclear translocator-like protein 1; Basic helix-loop-helix ARNT-like protein 1;Basic-helix-loop-helix-PAS protein MOP3;BMAL1;BHLHE5;MOP3;PASD3;Brain and muscle ARNT-like 1Class E basic helix-loop-helix protein 5;Member of PAS protein 3;PAS domain-containing protein 3;bHLH-PAS protein JAP3                                    |
| <b>Observed Band</b>               | 75kD                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Calculated Molecular Weight</b> | 75kD                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Cell Pathway</b>                | Nucleus . Cytoplasm . Nucleus, PML body . Shuttles between the nucleus and the cytoplasm and this nucleocytoplasmic shuttling is essential for the nuclear accumulation of CLOCK, target gene transcription and the degradation of the CLOCK-ARNTL/BMAL1 heterodimer. The sumoylated form localizes in the PML body. Sequestered to the cytoplasm in the presence of ID2. . |
| <b>Tissue Specificity</b>          | Hair follicles (at protein level). Highly expressed in the adult brain, skeletal muscle and heart.                                                                                                                                                                                                                                                                          |
| <b>Function</b>                    | alternative products:Additional isoforms seem to exist,function:ARNTL-CLOCK heterodimers activate E-box element (3'-CACGTG-5') transcription of a number of proteins of the circadian clock. This transcription is inhibited in a feedback                                                                                                                                  |



loop by PER, and also by CRY proteins.,miscellaneous:CLOCK-ARNTL double mutations within the PAS domains result in synergistic desensitization to high levels of CRY on repression of CLOCK-ARNTL transcriptional activity of PER1 and, disrupt circadian rhythmicity.,PTM:Acetylated on Lys-538 upon dimerization with CLOCK. Acetylation facilitates CRY1-mediated repression., PTM:Phosphorylated upon dimerization with CLOCK.,PTM:Sumoylated on Lys-259 upon dimerization with CLOCK.,similarity:Contains 1 basic helix-loop-helix (bHLH) domain.,similarity:Contains 1 PAC (PAS-associated C-terminal) domain., similarity:Contains 2 PAS (PER-ARNT-SIM) domains.,subunit:Component

## Background

The protein encoded by this gene is a basic helix-loop-helix protein that forms a heterodimer with CLOCK. This heterodimer binds E-box enhancer elements upstream of Period (PER1, PER2, PER3) and Cryptochrome (CRY1, CRY2) genes and activates transcription of these genes. PER and CRY proteins heterodimerize and repress their own transcription by interacting in a feedback loop with CLOCK/ARNTL complexes. Defects in this gene have been linked to infertility, problems with gluconeogenesis and lipogenesis, and altered sleep patterns. Several transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2014],

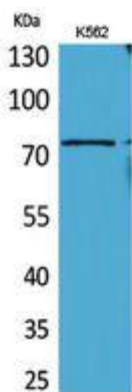
## matters needing attention

Avoid repeated freezing and thawing!

## Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

## Products Images



Western Blot analysis of various cells using BMAL1 Monoclonal Antibody