

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human BMAL1 in direct ELISAs.
Source	Monoclonal Mouse IgG _{2B} Clone # 1029536
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human BMAL1 Met105-Glu303 Accession # O00327
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

ELISA Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

BMAL1 (Brain and Muscle ARNT-like 1; ARNTL) is an essential core component in circadian clock machinery which is regulatory mechanism for circadian rhythms. Circadian clock genes include three period proteins (PER1, PER2 and PER3), two cryptochromes (CRY1 and CRY2), CLOCK, NPAS2 and BMAL proteins, wherein BMAL1 has a potential to heterodimerize with CLOCK or NPAS2 genes; and this neocomplex drives transcription from E-box elements (5'-CACGTG-3') found in circadian-responsive genes's promoters. PER/CRY proteins negatively regulate CLOCK/BMAL1 dimer-mediated transcription, thereby forming the feedback loop that regulates the timing of clock gene transcription. BMAL1 also associates with GNB2L1/RACK1 and PRKCA in a nuclear complex, wherein GNB2L1 and PRKCA are recruited to the complex in a circadian manner. BMAL1 undergoes acetylation (Lys-538), phosphorylation and sumoylation (Lys-259) upon dimerization with CLOCK and acetylation facilitates CRY1-mediated repression. CLOCK-BMAL1 double mutations within PAS domains leads to synergistic desensitization to high levels of CRY on repression of CLOCK-BMAL1 transcriptional activity of PER1 and, disrupt circadian rhythmicity. Clock genes functions primarily as tumor suppressors and their abbarant expression is observed in malignant pleural mesothelioma, colorectal and breast cancer.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.