

Product datasheet for **RC207870**

BMAL1 (ARNTL) (NM_001178) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	BMAL1 (ARNTL) (NM_001178) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	BMAL1
Synonyms:	bHLHe5; BMAL1; BMAL1c; JAP3; MOP3; PASD3; TIC
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC207870 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCAGACCAGAGAATGGACATTTCTCAACCATCAGTGATTTTCATGTCCCCGGGCCCCACCGACCTGC
 TTTCCAGCTCTCTTGGTACCAGTGGTGTGGATTGCAACCGCAAACGGAAAGGCAGCTCCACTGACTACCA
 AGAAAAGCATGGACACAGACAAAGATGACCTCATGGAAGTTAGAATATACAGAACCAAGGAAGGATA
 AAAAATGCAAGGGAAGCTCACAGTCAGATTGAAAAGCGCGCTCGGGATAAAAATGAACAGTTTTATAGATG
 AATTGGCTTCTTTGGTACCAACATGCAACGCAATGTCCAGGAAATAGATAAACTTACTGTGCTAAGGAT
 GGCTGTTCCAGCACATGAAAACATTAAGAGGTGCCACCAATCCATACACAGAAGCAAACACTACAAACCACT
 TTTCTATCAGACGATGAATTGAAACACCTATTCTCAGGGCAGCAGATGGATTTTTGTTTGTGCTAGGAT
 GTGACCGAGGGAAGATACTCTTTGTCTCAGAGTCTGTCTTCAAGATCCTCAACTACAGCCAGAATGATCT
 GATTGGTCAGAGTTTGTGTTGACTACCTGCATCCTAAAGATATTGCCAAAGTCAAGGAGCAGCTCTCTCC
 TCTGACACCGCACCCCGGAGCGGCTCATAGATGCAAAAACCTGGACTTCCAGTTAAAACAGATATAACCC
 CTGGGCCATCTCGATTATGTTCTGGAGCAGCAGCTTCTTTCTTGTAGGATGAAGTGTAACAGGCCCTTC
 AGTAAAGGTTGAAGACAAGGACTTCCCCTCTACCTGCTCAAAGAAAAAGATCGAAAAAGCTTCTGCACA
 ATCCACAGCACAGGCTATTTGAAAAGCTGGCCACCCACAAAGATGGGGCTGGATGAAGACAACGAACCG
 ACAATGAGGGGTGAACCTCAGCTGCCTCGTCGCAATTGGACGACTGCATTTCTCATGTAGTTCCACAACC
 AGTGAACGGGGAATCAGGGTGAATCTATGGAATATGTTTCTCGGCACGCGATAGATGGAAGTTTGT
 TTTGTAGACCAGAGGGCAACAGCTATTTGGCATAATTTACCACAAGAATTCTAGGCACATCGTGTATG
 AATATTTTCAACCAAGATGACATAGGACATCTTGCAGAATGTCATAGGCAAGTTTTACAGACGAGAGAAA
 AATTACAACATAATTGCTATAAATTTAAAATCAAAGATGGTTCTTTTATCACACTACGGAGTCGATGGTTT
 AGTTTCATGAACCCTTGACCAAGGAAGTAGAATATATTGTCTCAACTAACACTGTTGTTTTAGCCAACG
 TCCTGGAAGGCGGGGACCCAACCTTCCCACAGCTCACAGCATCCCCCACAGCATGGACAGCATGCTGCC
 CTCTGGAGAAGGTGGCCAAAGAGGACCCACCCACTGTTCCAGGGATTCCAGGGGGAACCCGGGCTGGG
 GCAGGAAAAATAGGCCGAATGATTGCTGAGGAAATCATGGAAATCCACAGGATAAGAGGGTCATCGCCTT
 CTAGCTGTGGCTCCAGCCATTGAACATCACGAGTACGCCTCCCCCTGATGCCTTCTCCAGGAGGCAA
 GAAGATTTTAAATGGAGGACTCCAGACATTCTTCCAGTGGCCTACTATCAGGCCAGGCTCAGGAGAAC
 CCAGGTTATCCATATTCTGATAGTTCTTCTATTCTTGGTGAACCCCCACATAGGTATAGACATGATTG
 ACACCGACCAAGGATCAAGTAGTCCAGTAATGATGAGGCAGCAATGGCTGTATCATGAGCCTCTTGGA
 AGCAGATGCTGGACTGGGTGGCCCTGTTGACTTTAGTGACTTGCCATGGCCGCTG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC207870 protein sequence
 Red=Cloning site Green=Tags(s)

MADQRMDISSTISDFMSPGPTDLLSSSLGTSGVDCNRKRKGSSTDYQESMDTDKDDPHGRLEYTEHQGRI
 KNAREAHSQIEKRRRDKMNSFIDELASLVPTCNAMSRKLDKLTVLRMAVQHMKTLRGATNPYTEANYKPT
 FLSDELKHLILRAADGFLFVVGCDRGKILFVSESVFKILNYSQNDLIGQSLFDYLPKDIKVKQLSS
 SDTAPRERLIDAKTGLPVKTDITPGPSRLCSGARRSFFCRMKCNRPVSVKVEDKDFPSTCSKKKDRKSFCT
 IHSTGYLKSWPPTKMGLDEDNEPDNEGCNL SCLVAIGRLHSHVVPQPVNGEIRVKSMEEYVSRHAIDGKFFV
 FVDQRATAILAYLPQELLGTSCYEYFHQDDIGHLAECHRQVLQTRKITTNCYKFKIKDGSFITLRSRWF
 SFMNPWTKVEEYIVSTNTVVLANVLEGGDPTFPQLTASPHSMDSMLPSGEGGPKRTHPTVPIPGGTRAG
 AGKIGRMIAEEIMEIHRIRGSSPSSCGSSPLNITSTPPPDASSPGGKKILNGGTPDIPSSGLLSGQAQEN
 PGYPYSDSSSILGENPHIGIDMIDNDQGSSSPSNDEAAMAVIMSLLEADAGLGGPVDFSDLPWPL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6147_a07.zip
Restriction Sites: SgfI-MluI
Cloning Scheme:



ACCN: NM_001178
ORF Size: 1875 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- Reconstitution Method:**
 1. Centrifuge at 5,000xg for 5min.
 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
 3. Close the tube and incubate for 10 minutes at room temperature.
 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

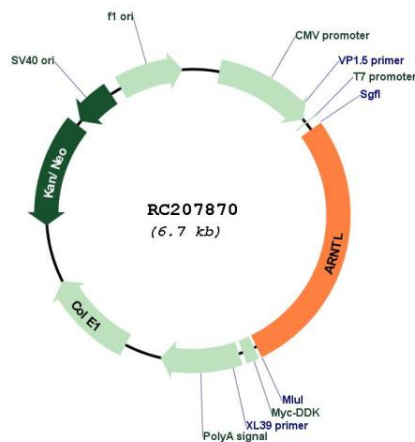
Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_001178.5](#)
RefSeq Size: 2863 bp

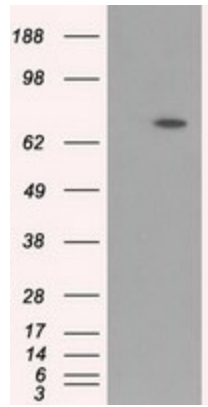
RefSeq ORF:	1878 bp
Locus ID:	406
UniProt ID:	O00327
Cytogenetics:	11p15.3
Domains:	PAS, HLH, PAC
Protein Families:	Druggable Genome, Transcription Factors
Protein Pathways:	Circadian rhythm - mammal
MW:	68.7 kDa

Gene Summary: 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]

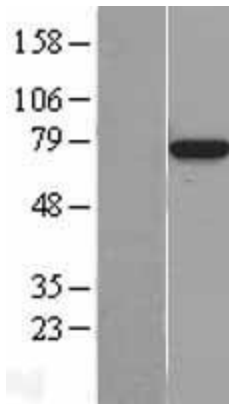
Product images:



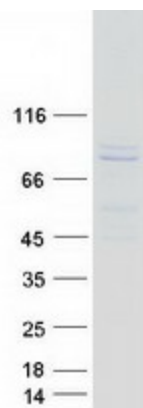
Circular map for RC207870



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY ARNTL (Cat# RC207870, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-ARNTL (Cat# [TA501174]). Positive lysates [LY400474] (100ug) and [LC400474] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400474]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC207870 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ARNTL protein (Cat# [TP307870]). The protein was produced from HEK293T cells transfected with ARNTL cDNA clone (Cat# RC207870) using MegaTran 2.0 (Cat# [TT210002]).