

Product datasheet for **RR204229**

Clock (NM_021856) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Clock (NM_021856) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Clock
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**ORF Nucleotide
Sequence:**

>RR204229 representing NM_021856
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGTTGTTTACCCTAAGCTGTAGTAAAATGAGCTCAATTGTTGACAGAGATGACAGTAGTATTTTTGATG
 GATTGGTGAAGAAGATGACAAGGACAAAAGAGATATCTAGAAACAAATCAGAAAAGAAAGTAG
 AGATCAGTTCAATGTACTCATTAAAGGAAGTGGGTCTATGCTTCTGGTAAATGCTAGAAAGATGGACAAG
 TCTACTGTTTACAGAAGAGCATTGATTTTTTACGCAAACATAAAGAGATCACTGCACAGTCAGATGCTA
 GTGAAATTCGACAGGACTGGAAACCTACATTCCTTAGTAATGAAGAGTTACACAATTAATGTTAGAGGC
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 AAAAAATCAGTTAGAATCTGTTGTACATGCTTCGAGGAACAATAGACCCAAAGGAGCCATCCACCTAT
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 TTCAGCTTTCAGTCAAGTAGGAGCCATGCAGCATCTCAAAGACCAGCTAGAGCAGCGGACACGCATGAT
 AGAAGCAATATTCATCGGCAGCAAGAAGAACTAAGGAAAATTCAGAACAATTCAAATGGTCCATGGT
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 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RR204229 representing NM_021856
 Red=Cloning site Green=Tags(s)

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MLFTVSCSKMSSIVDRDDSSIFDGLVEEDDKDKAKRVS RNKSEKKRRDQFNVLIKELGSMLPGNARKMDK
STVLQKSIDFLRKHKEITAQSDASEIRQDWKPTFLSNEEFTQLMLEALDGFFLAIMTDGSIYVSETVTS
LLEHLPSDLVDQSIFNF IPEGEHSEVYKILSTHLLSDSLTPEDLKSKNQLEFCCHMLRGTIDPKEPSTY
EYVRFIGNFKSLNSVSTSTHNGFEGTIQRTHRPSYEDRVCFVATVRLATPQFIKEMCTVEEPNEEFTSRH
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LQTHYYITYHQWNSRPEFIVCTHTVVSYA EVRAERRRELGVESLPETAADKSQDSGSDNRINTVSLKEA
LERFDHSPTPSASSRSSRKSHTAVSDPSSTPTKIPTDTSTPPRPHLPAHEKMTQRRSSFSSQSINSQSV
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TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

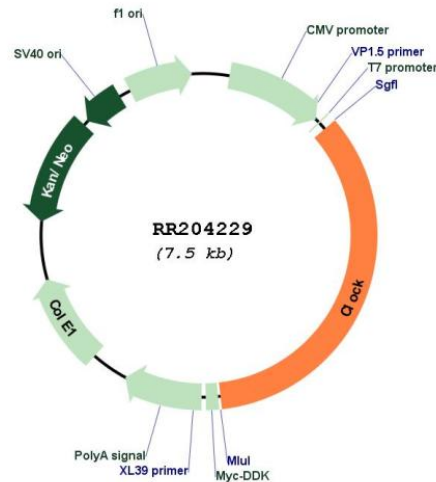
Restriction Sites: Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



* The last codon before the Stop codon of the ORF

Plasmid Map:


ACCN: NM_021856

ORF Size: 2586 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.

RefSeq: [NM_021856.2](#), [NP_068628.1](#)

RefSeq Size: 9291 bp

RefSeq ORF: 2589 bp

Locus ID: 60447

UniProt ID: [Q9WVS9](#)

Cytogenetics: 14p11

MW: 97 kDa

Gene Summary: The protein encoded by this gene plays a central role in the regulation of circadian rhythms. The protein encodes a transcription factor of the basic helix-loop-helix (bHLH) family and contains DNA binding histone acetyltransferase activity. The encoded protein forms a heterodimer with Arntl (Bmal1) that 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. Polymorphisms in this gene may be associated with behavioral changes, obesity, and metabolic syndrome. Two transcripts encoding different isoforms have been found for this gene. [provided by RefSeq, Jan 2014]