

Product datasheet for **RR205489**

Aanat (NM_012818) Rat Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Aanat (NM_012818) Rat Tagged ORF Clone
Tag: Myc-DDK
Symbol: Aanat
Synonyms: AA-NAT; Nat4
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >RR205489 representing NM_012818
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGTTGAGCATCCACCCCTGAAACCTGAGGCCCTGCATCTGCCTCTTGGGACCTCAGAGTTCCTAGGCT
 GCCAGCGGCCACACACTCCCTGCCAGTGAGTCCGCTGCCTCACGCCGAGGATGCCACCACTGCGTT
 TGAGATTGAGCGGAAGCCTTTATCTCAGTCTCGGTACCTGCCCTCCACTTGGATGAGATCCGGCAC
 TTCTCACCTGTGTCCAGAGCTGTCACTGGGCTGGTTCGAGGAGGGCTGTCTTGTGGCCTTCATCATCG
 GTTCACTTTGGACAAGGAGAGACTTACTCAGGAGTCGCTGACACTACACAGGCCTGGAGCCGCACGGC
 CCACCTGCACGTACTGGCCGTGCACCGAACCTCCGGCAGCAGGGCAAGGGCTCCGTCTGCTGTGGCGA
 TACCTTACCACCTGGGAGTCAGCCGGCGGTGCGCCGGCTGTGCTCATGTGCGAGAACGCCCTGGTGC
 CCTTCTATGAGAAATTTGGTTTCCAGGCCATGGGCCCTGCGCCATCACCATGGGATCTCTCACCTTAC
 TGAGCTGCAATGTTCTTACGGTGCCACACCTTCTGAGGAGGAACAGTGGCTGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RR205489 representing NM_012818
 Red=Cloning site Green=Tags(s)

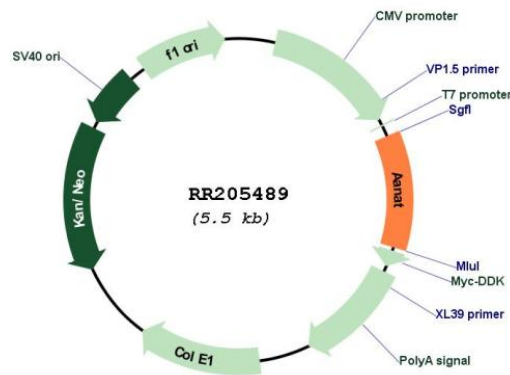
MLSIHPLKPEALHPLGTSEFLGQRRHTLPASEFRCLTPEDATSAFEIEREAFISVSGTCPLHLDEIRH
 FLTLCPELSLGWFEEGCLVAFIIGSLWDKERLTQESLTLHRPGRTAHLHVLAVHRTFRQQGKGSVLLWR
 YLHHLGSQPAVRRAVLMCENALVPFYEFKFGFQAMGPCAITMGS�TFTELQCSLRCHTFLRRNSGC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: Sgfl-Mlul



Cloning Scheme:

Plasmid Map:


ACCN: NM_012818

ORF Size: 615 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_012818.2](#), [NP_036950.1](#)

RefSeq Size: 1311 bp

RefSeq ORF: 618 bp

Locus ID: 25120

UniProt ID: [Q64666](#)

Cytogenetics: 10q32.2

MW: 23.1 kDa

Gene Summary: The protein encoded by this gene belongs to the acetyltransferase superfamily. It is the penultimate enzyme in melatonin synthesis and controls the night/day rhythm in melatonin production in the vertebrate pineal gland. Melatonin is essential for the function of the circadian clock that influences activity and sleep. This enzyme is regulated by cAMP-dependent phosphorylation that promotes its interaction with 14-3-3 proteins and thus protects the enzyme against proteasomal degradation. This gene may contribute to numerous genetic diseases such as delayed sleep phase syndrome. [provided by RefSeq, Feb 2014]