

Product datasheet for **RG210142**

Serotonin N acetyltransferase (AANAT) (NM_001088) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Serotonin N acetyltransferase (AANAT) (NM_001088) Human Tagged ORF Clone
Tag: TurboGFP
Symbol: AANAT
Synonyms: DSPS; SNAT
Mammalian Cell Selection: Neomycin
Vector: pCMV6-AC-GFP (PS100010)
E. coli Selection: Ampicillin (100 ug/mL)
ORF Nucleotide Sequence: >RG210142 representing NM_001088
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGTCCACGCAGAGCACCCACCCCTGAAACCTGAGGCCACAGTCTGCCACCTGGGATCCCCGAGTCCC
 CGAGCTGTCAGCGGCCACACTCCCTGCCAGTGAGTTTCGCTGCCTCACCCCGAGGACGCTGTCAG
 CGCCTTTGAGATCGAGCGTGAAGCCTTCATCTCCGTCTTGGCGTCTGCCCTGTACCTGGATGAGATC
 CGGCACCTCCTGACCCTATGTCCAGAGCTGTCCCTGGGCTGGTTCGAGGAGGGCTGCCTTGTGGCCTTCA
 TCATCGGCTCGCTCTGGGACAAGGAGAGACTCATGCAGGAGTCACTGACGCTGCACAGGTCTGGGGCCA
 CATAGCCACCTGCATGTGCTGGCGTGCACCGCCCTTCGGCAGCAGGGCAGGGGCCCATCCTGCTG
 TGGCGCTACCTGCACCACCTGGGAGCCAGCCGGCCGTGCGCCGGCCGGCTCATGTGCGAGGACGCGC
 TGGTACCCTTCTATGAGAGGTTGAGCTTCCACGCCGTGGGCCCTGCGCCATCACCGTGGGCTCCCTCAC
 CTTTCATGGAGCTCCACTGCTCCCTGCGGGCCACCCCTTCTGCGCAGGAACAGCGGCTGC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG210142 representing NM_001088
 Red=Cloning site Green=Tags(s)

MSTQSTHPLKPEAPRLPPGIPESPSCQRRHTLPASEFRCLTPEDAVSAFEIEREAFISVLGVCPLYLDEI
 RHFLTLCPESLWFEEGCLVAFIIGSLWDERLMOESLTLHRSGGHIAHLHVLAVHRAFRQQGRGPILL
 WRYLHHLGSPAVRRAALMCEDALVPFYERFSFHAVGPCAITVGSLSFMELHCSLRGHPFLRRNSGC

TRTRPLE - GFP Tag - V

Restriction Sites: Sgfl-MluI

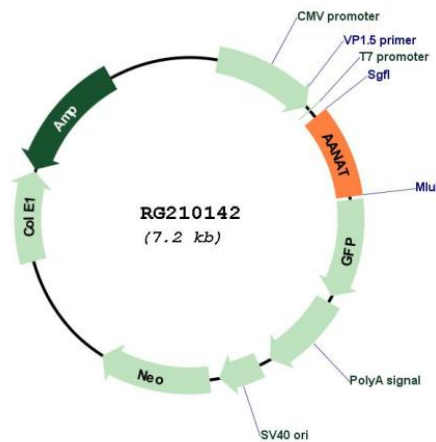


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Cloning Scheme:



Plasmid Map:



ACCN: NM_001088

ORF Size: 621 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_001088.3](#)

RefSeq Size: 1014 bp

RefSeq ORF: 624 bp

Locus ID: 15

UniProt ID: [Q16613](#)

Cytogenetics: 17q25.1

Protein Pathways: Metabolic pathways, Tryptophan metabolism

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. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Oct 2009]