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Product datasheet for RC210142

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:	Myc-DDK
Symbol:	Serotonin N acetyltransferase
Synonyms:	DSPS; SNAT
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC210142 representing NM_001088
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGTCCACGCAGAGCACCCACCCCCTGAAACCTGAGGCCCCACGTCTGCCACCTGGGATCCCCGAGTCCC
CGAGCTGTCAGCGGCGCCACACACTCCCTGCCAGTGAGTTTCGCTGCCTCACCCCGGAGGACGCTGTCAG
CGCCTTTGAGATCGAGCGTGAAGCCTTCATCTCCGTCTTGGGCGTCTGCCCCCTGTACCTGGATGAGATC
CGGCACTTCCTGACCCTATGTCCAGAGCTGTCCCTGGGCTGGTTCGAGGAGGGCTGCCTTGTGGCCTTCA
TCATCGGCTCGCTCTGGGACAAGGAGAGACTCATGCAGGAGTCACTGACGCTGCACAGGTCTGGGGGCCA
CATAGCCCACCTGCATGTGCTGGCCGTGCACCGCGCCTTCCGGCAGCAGGGCAGGGGCCCCATCCTGCTG
TGGCGCTACCTGCACCACCTGGGCAGCCAGCCGGCCGTGCGCCGGGCCGCGCTCATGTGCGAGGACGCGC
TGGTACCCTTCTATGAGAGGTTCAGCTTCCACGCCGTGGGCCCCTGCGCCATCACCGTGGGCTCCCTCAC
CTTCATGGAGCTCCACTGCTCCCTGCGGGGCCACCCCTTCCTGCGCAGGAACAGCGGCTGC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC210142 representing NM_001088
Red=Cloning site Green=Tags(s)

MSTQSTHPLKPEAPRLPPGIPESPSCQRRHTLPASEFRCLTPEDAVSAFEIEREAFISVLGVCPLYLDEI
RHFLTLCPELSLGWFEEGCLVAFIIGSLWDKERLMQESLTLHRSGGHIAHLHVLAVHRAFRQQGRGPILL
WRYLHHLGSQPAVRRAALMCEDALVPFYERFSFHAVGPCAITVGSLTFMELHCSLRGHPFLRRNSGC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

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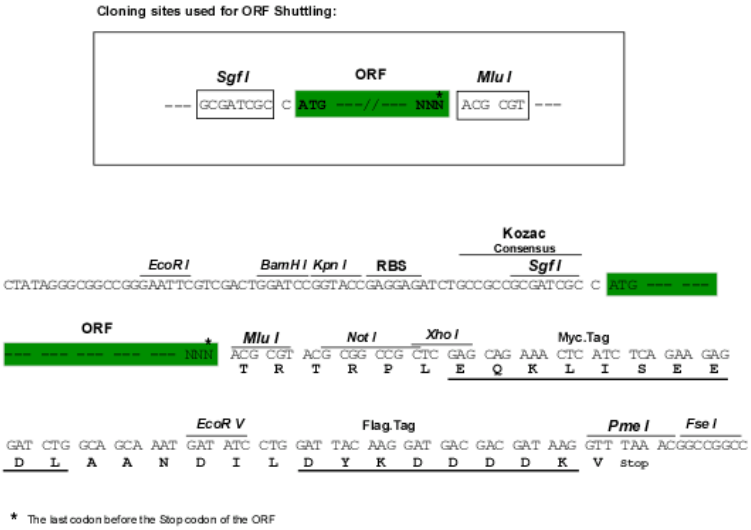
Chromatograms: https://cdn.origene.com/chromatograms/mg3624_a05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



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.

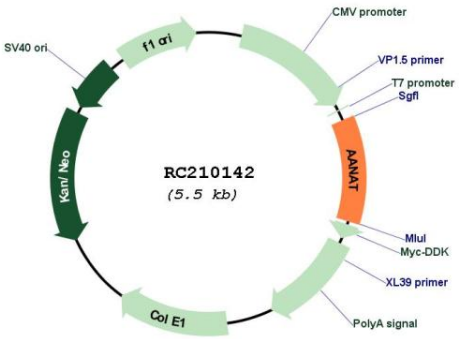
Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: NM_001088.3

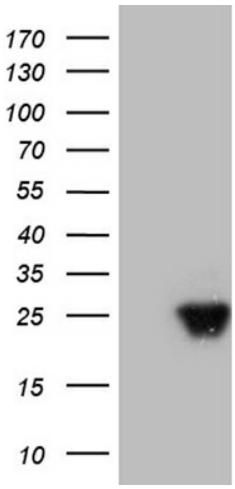
RefSeq Size: 1014 bp

RefSeq ORF:	624 bp
Locus ID:	15
UniProt ID:	Q16613
Cytogenetics:	17q25.1
Protein Pathways:	Metabolic pathways, Tryptophan metabolism
MW:	23.2 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. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Oct 2009]

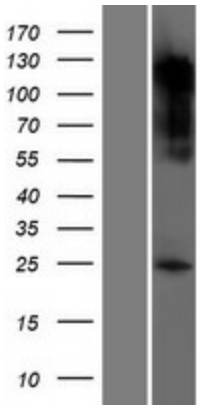
Product images:



Circular map for RC210142



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY AANAT (Cat# RC210142, 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-AANAT (Cat# [TA810171])(1:2000). Positive lysates [LY421333] (100ug) and [LC421333] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY421333]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC210142 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).