

## Product datasheet for **RG207042**

### AZIN2 (NM\_052998) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	AZIN2 (NM_052998) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	AZIN2
Synonyms:	ADC; AZI2; AZIB1; ODC-p; ODC1L; ODCp
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG207042 representing NM\_052998  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCTGGCTACCTGAGTGAATCGGACTTTGTGATGGTGGAGGAGGGCTTCAGTACCCGAGACCTGCTGA  
 AGGAACTCACTCTGGGGCCTCACAGGCCACCACGGACGAGGTAGCTGCCTTCTTCGTGGCTGACCTGGG  
 TGCCATAGTGAGGAAGCACTTTTCTTTCTGAAGTGCCTGCCACGAGTCCGGCCCTTTTATGCTGTCAAG  
 TGCAACAGCAGCCAGGTGTGCTGAAGTTCTGGCCAGCTGGGGCTGGGCTTTAGCTGTGCCAACAAGG  
 CAGAGATGGAGTTGGTCCAGCATATTGGAATCCCTGCCAGTAAGATCATCTGCGCAACCCTGTAAGCA  
 AATTGCACAGATCAAATATGCTGCCAAGCATGGGATCCAGCTGCTGAGCTTTGACAATGAGATGGAGCTG  
 GCAAAGTGGTAAAGAGCCACCCAGTGCCAAGATGGTTCTGTGCATTGCTACCGATGACTCCCACTCCC  
 TGAGCTGCCTGAGCCTAAAGTTGGAGTGTCACTGAAATCCTGCAGACACCTGCTTGAAATGCGAAGAA  
 GCACCATGTGGAGTGGTGGGTGTGAGTTTACATTGGCAGTGGCTGTCTGACCTCAGGCCTATGCT  
 CAGTCCATCGCAGACGCCGGCTCGTGTGTTGAAATGGGCACCGAGCTGGGTACACAAGATGCACGTTCTGG  
 ACCTTGGTGGTGGCTTCCCTGGCACAGAAGGGGCCAAAGTGAGATTTGAAGAGATTGCTTCCGTGATCAA  
 CTCAGCCTTGACCTGTACTTCCAGAGGGCTGTGGCGTGGACATCTTTGCTGAGCTGGGGCGCTACTAC  
 GTGACCTCGGCCCTCACTGTGGCAGTCAGCATATTGCCAAGAAGGAGGTTCTGTAGACCAGCCTGGCA  
 GGGAGGAGGAAAATGGTCCACCTCCAAGACCATCGTGTACCACCTTGATGAGGGCGTGTATGGGATCTT  
 CAACTCAGTCTGTTTGAACAATCTGCCCTACCCCATCCTGCAGAAGAAACCTCCACGGAGCAGCCC  
 CTGTACAGCAGCAGCCTGTGGGGCCGGCGTTGATGGCTGTGATTGCGTGGCTGAGGGCCTGTGGCTGC  
 CGCAACTACACGTAGGGACTGGCTGGTCTTTGACAACATGGGGCCTACACTGTGGCATGGGTTCCCC  
 CTTTTGGGGGACCCAGGCCTGCCACATCACCTATGCCATGTCCCGGGTGGCTGGGAAGCGCTGCGAAGG  
 CAGCTGATGGCTGCAGAACAGGAGGATGACGTGGAGGTTGTGCAAGCCTCTGTCTGCGGCTGGGAGA  
 TCACAGACACCCTGTGCGTGGGCCCTGTCTTACCCAGCGAGCATCATG

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>RG207042 representing NM\_052998  
 Red=Cloning site Green=Tags(s)

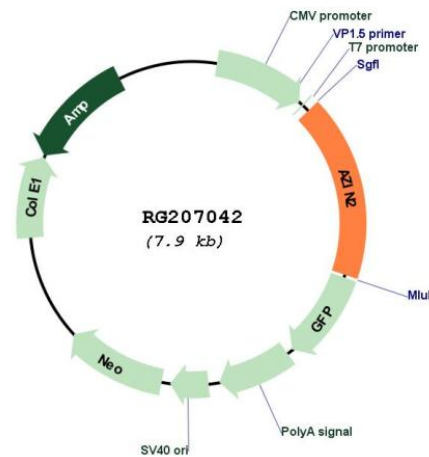
MAGYLSSEDFVMVEEGFSTRDLLKELTLGASQATTDEVAFFVADLGAIVRKHFCLKCLPRVRPFYAVK  
 CNSSPGVLKVLALQLGLGFSCANKAEMELVQHIGIPASKIICANPCKQIAQIKYAAKHGIQLLSFDNEMEL  
 AKVVKSHPSAKMVLCIATDDSHLSLSLKFVSLKSCRHLENAKHHHEVVGVSFHIGSGCPDPQAYA  
 QSIADARLVFEMGTELGHKMHVLDLGGFPGTGAKVRFEEIASVINSALDLYFPEGCGVDIFAELGRYY  
 VTSAFTVAVSIIAKKEVLLDQPGREEENGSTSKTIVYHLDEGVYGFNSVLFDNICPTPILOKPKPSTEQP  
 LYSSSLWGPVAVDGCDCVAEGLWLPQLHVGDWLVFDNMGAYTVGMGSPFWGTQACHITYAMSRVAWEALRR  
 QLMAAEQEDDVEGVCKPLSCGWEITDTLCVGPVFTPASIM

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**

**Plasmid Map:**


**ACCN:** NM\_052998

**ORF Size:** 1380 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.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u><a href="#">NM_052998.4</a></u>
<b>RefSeq Size:</b>	2210 bp
<b>RefSeq ORF:</b>	1383 bp
<b>Locus ID:</b>	113451
<b>UniProt ID:</b>	<u><a href="#">Q96A70</a></u>
<b>Cytogenetics:</b>	1p35.1
<b>Domains:</b>	Orn_Arg_deC_N
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Arginine and proline metabolism, Metabolic pathways

**Gene Summary:**

The protein encoded by this gene belongs to the antizyme inhibitor family, which plays a role in cell growth and proliferation by maintaining polyamine homeostasis within the cell. Antizyme inhibitors are homologs of ornithine decarboxylase (ODC, the key enzyme in polyamine biosynthesis) that have lost the ability to decarboxylase ornithine; however, retain the ability to bind to antizymes. Antizymes negatively regulate intracellular polyamine levels by binding to ODC and targeting it for degradation, as well as by inhibiting polyamine uptake. Antizyme inhibitors function as positive regulators of polyamine levels by sequestering antizymes and neutralizing their effect. This gene encodes antizyme inhibitor 2, the second member of this gene family. Like antizyme inhibitor 1, antizyme inhibitor 2 interacts with all 3 antizymes and stimulates ODC activity and polyamine uptake. However, unlike antizyme inhibitor 1, which is ubiquitously expressed and localized in the nucleus and cytoplasm, antizyme inhibitor 2 is predominantly expressed in the brain and testis and localized in the endoplasmic reticulum-golgi intermediate compartment. Recent studies indicate that antizyme inhibitor 2 is also expressed in specific cell types in ovaries, adrenal glands and pancreas, and in mast cells. The exact function of this gene is not known, however, available data suggest its role in cell growth, spermiogenesis, vesicular trafficking and secretion. Accumulation of antizyme inhibitor 2 has also been observed in brains of patients with Alzheimer's disease. There has been confusion in literature and databases over the nomenclature of this gene, stemming from an earlier report that a human cDNA clone (identical to ODCp/AZIN2) had arginine decarboxylase (ADC) activity (PMID:14738999). Subsequent studies in human and mouse showed that antizyme inhibitor 2 was devoid of arginine decarboxylase activity (PMID:19956990). Alternatively spliced transcript variants have been described for this gene. [provided by RefSeq, Sep 2014]