

## Product datasheet for **RG237729**

### AZIN2 (NM\_001301826) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	AZIN2 (NM_001301826) 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)
ORF Nucleotide Sequence:	>RG237729 representing NM_001301826. Blue=ORF Red=Cloning site Green=Tag(s)

```
GCTCGTTTGTAGTGAACCGTCAGAATTTTGTAAATACGACTCACTATAGGGCGGCCGGGAATTCGTGCGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
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GCGAAGAAGCACCATGTGGAGGTGGTGGGTGTGAGTTTTACATTGGCAGTGGCTGTCTGACCCTCAG
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GACCAGCCTGGCAGGGAGGAGGAAAATGGTTCCACCTCCAAGACCATCGTGTACCCACCTTGTGAGGGC
GTGTATGGGATCTTCAACTCAGTCTGTTTGACAACATCTGCCCTACCCCATCCTGCAGAAGTCTAAG
AACCACCTACCCTGCTACATGTCTCTAGAGTCCATTTCATTTTCATTGCCGTG
ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAAAC
```



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**Protein Sequence:** >Peptide sequence encoded by RG237729  
 Blue=ORF Red=Cloning site Green=Tag(s)

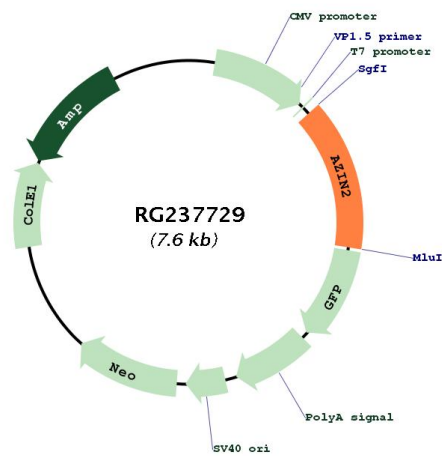
MAGYLSSEDFVMVEEGFSTRDLLKELTLGASQATTDEVAFFVADLGAIVRKHFCFLKCLPRVPRPFYAV  
 KCNSSPGVLKVLQQLGLGFSCANKAEMELVQHIGIPASKIICANPCKQIAQIKYAACHGIQLL SFDNEM  
 ELAKVVKSHPSAKMVLCAIATDDSHLSLCLSLKFGVSLKSCRHLL ENAKHHVEVGVVSFHIGSGCPDPQ  
 AYAQSIADARLVFEMGTELGHKMHVLDLGGGFPGTEGAKVRFEEIASVINSALDLYFPEGCGVDIFAEL  
 GRYYVTSAFTVAVSIIAKKEVLLDQPGREEENGSTSKTIYVYHLDGEGVYGI FNSVLFDNICPTILQKSK  
 NHSPCYMSLESIHFIIV  
 TRTRPLEMESDEGLPAMEIECRITGTLNGVEFELVGGGEGTPEQGRMTNKMSTKGALTFSPYLLSHV  
 MGYGFYHFGTYPSTYENPFLHAINNGGYTNTRIEKYEDGGVLHVSFSYRYEAGRVIGDFKVMGTGFPED  
 SVIFTDKIIRSNATVEHLHPMGDNDLDGSFTRTFSLRDGGYSSVVD SHMHFKSAIHPSILQNGGPMFA  
 FRRVEEDHSNTELGIVEYQHAFKTPDADAGEERV

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**



ACCN:	NM_001301826
ORF Size:	1086 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. <a href="#">More info</a>
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).
RefSeq:	<a href="#">NM_001301826.1</a> , <a href="#">NP_001288755.1</a>
RefSeq Size:	1161 bp
RefSeq ORF:	1089 bp
Locus ID:	113451
UniProt ID:	<a href="#">Q96A70</a>
Cytogenetics:	1p35.1
Protein Families:	Druggable Genome
Protein Pathways:	Arginine and proline metabolism, Metabolic pathways
MW:	39.8 kDa

**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]