OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for RR202365

Azin2 (NM_001014261) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Azin2 (NM_001014261) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Azin2
Synonyms:	Adc; AzI2; ODC-p; RGD1564776
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin

ORF Nucleotide Sequence:

>RR202365 representing NM_001014261
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCTGGCTACCTCAGTGAATCGGACTTTGTGATGGTGGAGGAGGGCTTCAGCACCCGGGATCTGCTGG
AGGAACTCACTCTGGGGGCCTCCCAGGCCACCACGGGCAAGGTGGCTGCCTTCTTCGTGGCCGACCTGGG
TGCTGTAGTGAGGAAGCACTTCTGCTTTCTGAAGTACCTGCCTCGAGTCCGGCCTTTTTATGCTGTCAGG
TGCAACAGCAGTCTTGGCGTGCTGAAGGTCCTGGCCGAGCTGGGACTGGGCTTCAGCTGTGCCAGCAAGG
CAGAGATGGAGTTGGTCCAGCACATTGGTGTCCCTGCCAGTAAGATCATCTGTGCCAACCCCTGTAAGCA
AGTTGCCCAGATCAAGTATGCTGCCAAGCACGGGGTGAGACTGCTAAGCTTCGACAATGAAGTGGAACTG
GCCAAGGTGGTCAAGAGCCACCCCAGTGCCAAGATGGTTCTGTGCATTGCTACCCAGGACTCCCACTCTC
TGAATCACCTGAGCTTGAGGTTCGGGGCGTCGCTGAAATCCTGCAGACATCTGCTCGAGAACGCCAAGCA
GAGCCATGTGGAGGTGGTGGGTGTGAGTTTTCACATTGGTAGTGGCTGTCCTGACCCTCAGGCCTATGCC
CAGTCCATCGCGGATGCCAGGCTCGTGTTTCAAATGGGTGCGGAGCTGGGCCACACGATGAACATCCTGG
ACCTTGGCGGCGGCTTTCCTGGCTTAGAGGGAGCCAAAGTGAGATTTGAAGAGATGGCCTCAGTGATTAA
CTCAGCCTTGGACCTGTACTTCCCTGAGGGCTGCGGTGTGGACATCCTTGCTGAGCTGGGCCGCTACTAT
GTGACGTCAGCCTTCACTGTGGCCGTCAGCATCGTTGCCAAGAAGGAGGTTCTGGACCAGCCCAGCAGGG
AGGAGCAAACCGGCGCAGCCCCTAAGAGCATCGTGTACCACCTTGATGAAGGTGTTTATGGGGTCTTCAA
CTCAGTCCTGTTTGACAACACCTGCCCCACCCCCGCCCTGCAGAAGAAACCATCTGCGGATCAACCGCTG
TACAGCAGTAGCCTGTGGGGCCCAGCAGTTGACGGCTGCGACTGTGTGGCTGAGGGCCTATGGCTGCCGC
AACTACAAGTAGGGGACTGGCTGGTCTTTGACAACATGGGTGCTTACACCGTGGACACAAAGTCCCTTCT
CGGGGGGACCCAGGCCTGCAGAGTCACTTATGCCATGTCCCGGCTAGCCTGGGAAGCCCTTCAAGGGCAG
CTGCTGCCTGCAGAAGAAGACCAGGACGCCGAGGGTGTGTGCAAACCTCTGTCCTGCGGCTGGGAGATCA
CAGACAGCCTGTGTGTGGGCCCTGTCTTCACCCCAGCAAGCATCATG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

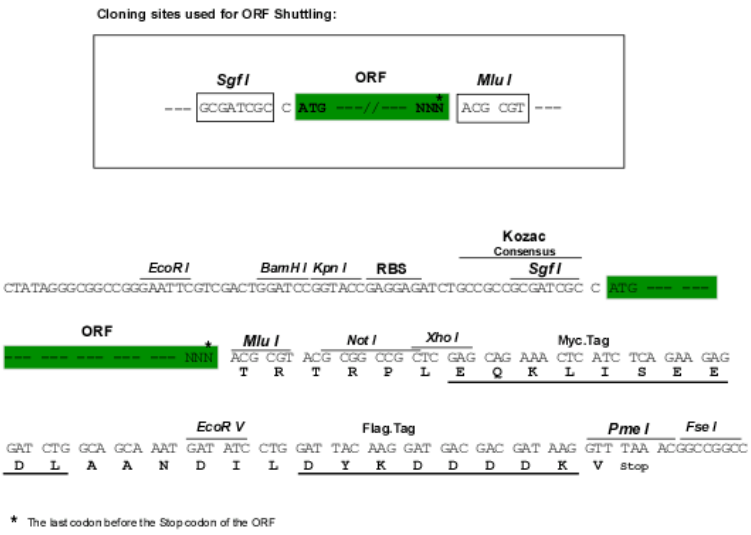
>RR202365 representing NM_001014261
Red=Cloning site Green=Tags(s)

MAGYLSESDFVMVEEGFSTRDLLEELTLGASQATTGKVAAFFVADLGAVVRKHFCFLKYLPRVRPFYAVR
CNSSLGVLKVLAELGLGFSCASKAEMELVQHIGVPASKIICANPCKQVAQIKYAAKHGVRLLSFDNEVEL
AKVVKSHPSAKMVLCIATQDSHSLNHLSLRFGASLKSCRHLLENAKQSHVEVVGVSFHIGSGCPDPQAYA
QSIADARLVFQMGAELGHTMNILDLGGGFPGLEGAKVRFEEMASVINSALDLYFPEGCGVDILAELGRYY
VTSAFTVAVSIVAKKEVLDQPSREEQTGAAPKSIVYHLDEGVYGVFNSVLFDNTCPTPALQKKPSADQPL
YSSSLWGPAVDGCDCVAEGLWLPQLQVGDWLVFDNMGAYTVDTKSLLGGTQACRVTYAMSRLAWEALQGQ
LLPAEEDQDAEGVCKPLSCGWEITDSLCVGPVFTPASIM

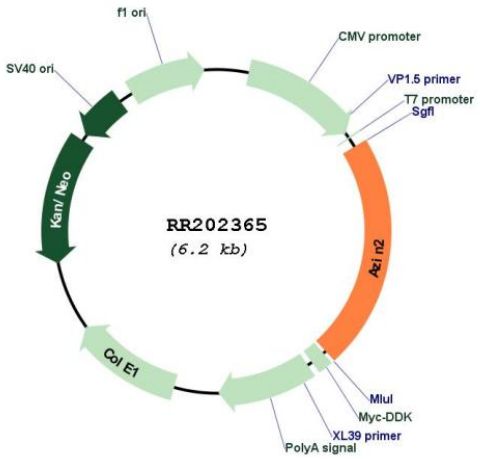
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001014261

ORF Size: 1377 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_001014261.3, NP_001014283.2
RefSeq Size:	1955 bp
RefSeq ORF:	1380 bp
Locus ID:	366473
Cytogenetics:	5q36
MW:	49.4 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. 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). [provided by RefSeq, Sep 2014]