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 RC218980

ABAT (NM_020686) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ABAT (NM_020686) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ABAT
Synonyms:	GABA-AT; GABAT; NPD009
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC218980 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCCTCCATGTTGCTCGCCCAGCGCCTGGCCTGCAGCTTCCAGCACAGCTACCGCCTGCTGGTGCCTG
GATCCAGACACATTAGTCAAGCTGCAGCCAAAGTCGACGTTGAATTTGATTATGATGGGCCTCTGATGAA
GACGGAAGTCCCAGGGCCTAGATCTCGGGAGTTAATGAAACAGCTGAATATAATTCAGAATGCAGAGGCT
GTGCATTTTTTCTGCAATTACGAAGAGAGCCGAGGCAATTACCTGGTTGATGTGGACGGCAACCGAATGC
TGGATCTTTATTCCCAGATCTCCTCTGTCCCCATAGGTTACAGCCACCCCGCCCTGCTGAAACTCATCCA
ACAGCCTCAAAATGCGAGCATGTTTGTCAACAGACCCGCCCTCGGAATCCTGCCTCCGGAGAACTTTGTG
GAGAAGCTCCGGCAGTCCTTGCTCTCGGTGGCTCCCAAAGGGATGTCCCAGCTCATCACCATGGCCTGCG
GCTCCTGCTCCAATGAAAACGCCTTAAAGACCATCTTCATGTGGTACCGGAGCAAGGAAAGAGGGCAGAG
GGGCTTCTCCCAGGAGGAGCTGGAGACGTGCATGATTAACCAGGCCCCTGGCTGCCCCGACTACAGCATC
CTCTCCTTCATGGGCGCGTTCCATGGGAGGACCATGGGTTGCTTAGCGACCACGCACTCTAAAGCCATTC
ACAAGATCGACATCCCTTCCTTTGACTGGCCCATCGCACCGTTCCCACGGCTGAAATACCCTCTGGAAGA
GTTTGTGAAAGAGAACCAACAGGAGGAGGCCCGCTGTCTGGAAGAGGTGGAGGATCTGATTGTGAAATAT
CGGAAAAAGAAGAAGACGGTGGCCGGGATCATCGTGGAGCCCATCCAGTCCGAGGGTGGAGACAACCACG
CATCCGATGACTTCTTTCGGAAGCTGAGAGACATCGCCAGGAAGCATGGCTGCGCCTTCTTGGTGGACGA
GGTACAGACCGGAGGAGGCTGCACGGGCAAGTTCTGGGCCCATGAGCACTGGGGCCTGGATGACCCAGCA
GACGTGATGACCTTCAGCAAGAAAATGATGACTGGGGGCTTCTTCCACAAGGAGGAGTTCAGGCCTAATG
CTCCCTACCGGATCTTCAACACCTGGCTGGGGGACCCGTCCAAGAACCTGTTGCTGGCTGAGGTCATCAA
CATCATCAAGCGGGAGGACCTGCTAAATAATGCAGCCCATGCCGGGAAGGCCCTGCTCACAGGACTGCTG
GACCTCCAGGCCCGGTACCCCCAGTTCATCAGCAGGGTGAGAGGACGAGGCACCTTTTGCTCCTTCGATA
CTCCCGATGATTCCATACGGAATAAGCTCATTTTAATTGCCAGAAACAAAGGTGTGGTGTTGGGTGGCTG
TGGTGACAAATCCATTCGTTTCCGTCCCACGCTGGTCTTCAGGGATCACCACGCTCACCTGTTCCTCAAT
ATTTTCAGTGACATCTTAGCAGACTTCAAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC218980 protein sequence
Red=Cloning site Green=Tags(s)

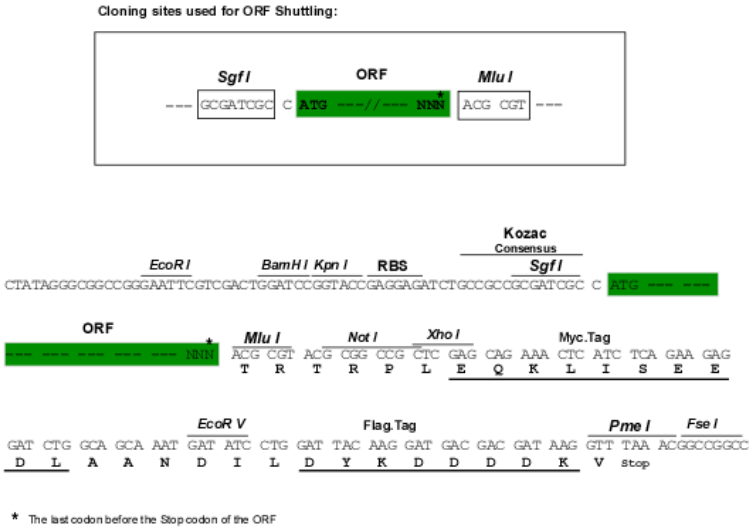
MASMLLAQRLACSFQHSYRLLVPGSRHISQAAAKVDVEFDYDGPLMKTEVPGPRSRELMKQLNIIQNAEA
VHFFCNYEESRGNYLVDVDGNRMLDLYSQISSVPIGYSHPALLKLIQQPQNASMFVNRPALGILPPENFV
EKLRQSLLSVAPKGMSQLITMACGSCSNENALKTIFMWYRSKERGQRGFSQEELETCMINQAPGCPDYSI
LSFMGAFHGRTMGCLATTHSKAIHKIDIPSFDWPIAPFPRLKYPLEEFVKENQQEEARCLEEVEDLIVKY
RKKKKTVAGIIVEPIQSEGGDNHASDDFFRKLRDIARKHGCAFLVDEVQTGGGCTGKFWAHEHWGLDDPA
DVMTFSKKMMTGGFFHKEEFRPNAPYRIFNTWLGDPSKNLLLAEVINIIKREDLLNNAAHAGKALLTGLL
DLQARYPQFISRVRGRGTFCSFDTPDDSIRNKLILIARNKGVVLGGCGDKSIRFRPTLVFRDHHAHLFLN
IFSDILADFK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6520_e02.zip

Restriction Sites: SgfI-MluI

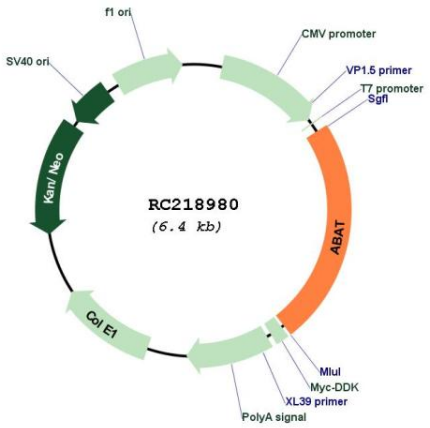
Cloning Scheme:



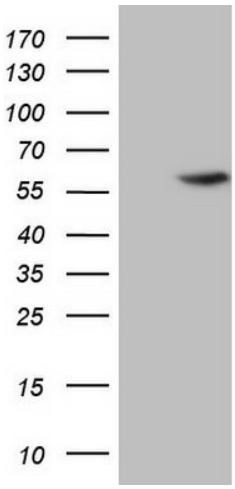
ACCN:	NM_020686
ORF Size:	1500 bp
OTI Disclaimer:	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own 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_020686.6
RefSeq Size:	4814 bp
RefSeq ORF:	1503 bp
Locus ID:	18
UniProt ID:	P80404
Cytogenetics:	16p13.2

Protein Families:	Druggable Genome
Protein Pathways:	Alanine, aspartate and glutamate metabolism, beta-Alanine metabolism, Butanoate metabolism, Metabolic pathways, Propanoate metabolism, Valine, leucine and isoleucine degradation
MW:	56.5 kDa
Gene Summary:	4-aminobutyrate aminotransferase (ABAT) is responsible for catabolism of gamma-aminobutyric acid (GABA), an important, mostly inhibitory neurotransmitter in the central nervous system, into succinic semialdehyde. The active enzyme is a homodimer of 50-kD subunits complexed to pyridoxal-5-phosphate. The protein sequence is over 95% similar to the pig protein. GABA is estimated to be present in nearly one-third of human synapses. ABAT in liver and brain is controlled by 2 codominant alleles with a frequency in a Caucasian population of 0.56 and 0.44. The ABAT deficiency phenotype includes psychomotor retardation, hypotonia, hyperreflexia, lethargy, refractory seizures, and EEG abnormalities. Multiple alternatively spliced transcript variants encoding the same protein isoform have been found for this gene. [provided by RefSeq, Jul 2008]

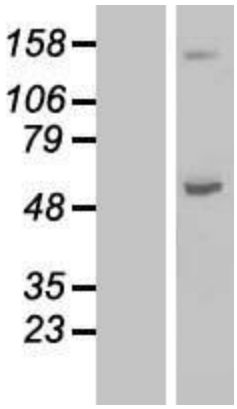
Product images:



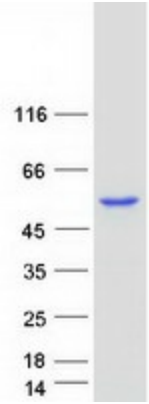
Circular map for RC218980



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY ABAT (Cat# RC218980, 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-ABAT (Cat# [TA806969]). Positive lysates [LY412383] (100ug) and [LC412383] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY412383]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC218980 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ABAT protein (Cat# [TP318980]). The protein was produced from HEK293T cells transfected with ABAT cDNA clone (Cat# RC218980) using MegaTran 2.0 (Cat# [TT210002]).