

Product datasheet for **RC203756**

Alanine Transaminase (GPT) (NM_005309) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Alanine Transaminase (GPT) (NM_005309) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Alanine Transaminase
Synonyms:	AAT1; ALT1; GPT1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC203756 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGCCTCGAGCACAGGTGACCGGAGCCAGGCGGTGAGGCATGGACTGAGGGCGAAGGTGCTGACGCTGG
 ACGGCATGAACCCGCGTGTGCGGAGAGTGGAGTACGCAGTGCCTGGCCCCATAGTGCAGCGAGCCTTGGA
 GCTGGAGCAGGAGCTGCGCCAGGGTGTGAAGAAGCCTTTCACCGAGGTCATCCGTGCCAACATCGGGGAC
 GCACAGGCTATGGGGCAGAGGCCATCACCTTCTGCGCCAGGTCTTGGCCCTCTGTGTTAACCTGATC
 TTCTGAGCAGCCCAACTCCCTGACGATGCCAAGAAAAGGGCGGAGCGCATCTTGCAGGCGTGTGGGG
 CCACAGTCTGGGGCCTACAGCGTCAGTCCGGCATCCAGCTGATCCGGGAGGACGTGGCGCGGTACATT
 GAGAGCGTGACGGAGGCATCCCTGCGGACCCCAACAACGTCTTCTGTCCACAGGGGCCAGCGATGCCA
 TCGTGACGGTGTGAAGCTGCTGGTGGCCGGCAGGGCCACACACGCACGGGTGTGCTCATCCCCATCCC
 CCAGTACCACTCTACTCGGCCAGCTGGCAGAGCTGGGCGCAGTGCAGGTGGATTACTACCTGGACGAG
 GAGCGTGCCTGGGCGCTGGACGTGGCCGAGCTTACCGTGCCTGGGCCAGGCGCGTGACCACTGCCGCC
 CTCGTGCGCTCTGTGTCATCAACCTGGCAACCCACCGGCAGGTGCAGACCCGCGAGTGCATCGAGGC
 CGTGATCCGCTTCGCTTCAAGAGCGGCTCTTCTGCTGGCGGACGAGGTGTACCAGGACAACGTGATC
 GCCGCGGTTTCGAGTTCCTACTCATTCAAGAAGGTGCTCATGGAGATGGGGCCGCCCTACGCCGGGCAGC
 AGGAGCTTGCCTCCTTCCACTCCACCTCCAAGGGCTACATGGGCGAGTGGGGTTCGCGGGCGGCTATGT
 GGAGGTGGTGAACATGGACGCTGCAGTGCAGCAGCAGATGCTGAAGCTGATGAGTGTGGCGCTGTGCCCC
 CCGGTGCCAGGACAGGCCCTGCTGGACCTGGTGGTTCAGCCCGCCGCGCCACCGACCCCTCTTTGCGC
 AGTTCCAGGCTGAGAAGCAGGACAGTGTGTCAGAGCTGGCGGCCAAGGCCAAGCTCACCGCAGGTCTT
 CAATGAGGCTCCTGGCATCAGCTGCAACCCAGTGCAGGGCGCCATGTACTCCTTCCCGCGCGTGCAGCTG
 CCCCCGCGGGCGGTGGAGCGCGCTCAGGAGCTGGGCTGGCCCCGATATGTTCTTCTGCCTGCGCTCC
 TGGAGGAGACCGGCATCTGCGTGGTGCAGGGAGCGGCTTTGGGAGCGGGAAGGCACCTACCACTTCCG
 GATGACCACTTCTGCCCCCTTGGAGAACTGCGGCTGCTGCTGGAGAAGCTGAGCAGGTTCCATGCCAAG
 TTCACCTCGAGTACTCC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC203756 protein sequence
 Red=Cloning site Green=Tags(s)

MASSTGDRSQAVRHGLRAKVLTL DGMNPRVRRVEYAVRGPVQRALELEQELRQGVKKPFTEVIRANIGD
 AQAMGQRPITFLRQVLALCVNPDLLSSPNFPDDAKKRAERILQACGGHSLGAYSVSSGIQLIREDVARYI
 ERRDGGIPADPNVFLSTGASDAIVTVLKLKVAGEGHTRTGVLIPQYPLYSATLAELGAVQVDYYLDE
 ERAWALDVAELHRALGQARDHCRPRALCVINPGNPTGQVQTRECI EAVIRFAFEERLFLLADEVYQDNVY
 AAGSQFHSFKKVLMEMGPPYAGQQELASFHSTSKGYMGECEGFRGGYVEVNMDAAVQQMLKMSVRLCP
 PVPGQALLDLVVSPPAPTDPSFAQFQAEKQAVLAELA AKL TEQVFNEAPGISCNPVQGAMYSFPRVQL
 PPRaveraQELGLAPDMFFCLRLLEETGICVVPVGSFGQREGTYHFRMTILPPEKLRLLLEKLSRFHAK
 FTLEYS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6236_b12.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_005309

ORF Size: 1488 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_005309.3](#)

RefSeq Size: 1896 bp

RefSeq ORF: 1491 bp

Locus ID: 2875

UniProt ID: [P24298](#)

Cytogenetics: 8q24.3

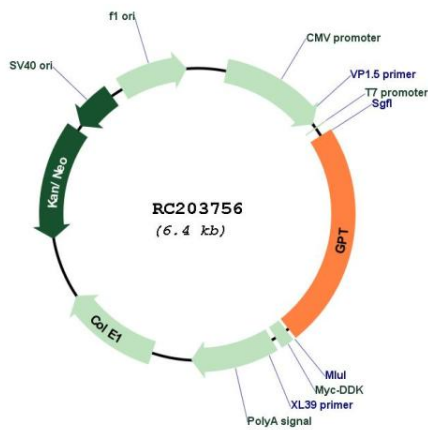
Protein Families: Druggable Genome

Protein Pathways: Alanine, aspartate and glutamate metabolism, Metabolic pathways

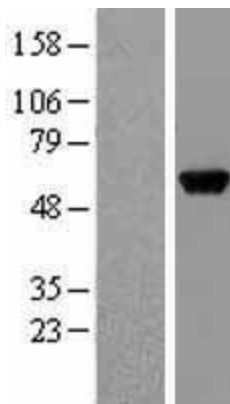
MW: 54.6 kDa

Gene Summary: This gene encodes cytosolic alanine aminotransaminase 1 (ALT1); also known as glutamate-pyruvate transaminase 1. This enzyme catalyzes the reversible transamination between alanine and 2-oxoglutarate to generate pyruvate and glutamate and, therefore, plays a key role in the intermediary metabolism of glucose and amino acids. Serum activity levels of this enzyme are routinely used as a biomarker of liver injury caused by drug toxicity, infection, alcohol, and steatosis. A related gene on chromosome 16 encodes a putative mitochondrial alanine aminotransaminase.[provided by RefSeq, Nov 2009]

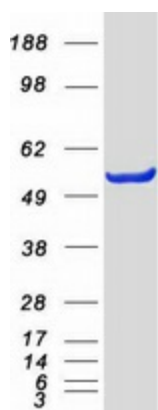
Product images:



Circular map for RC203756



Western blot validation of overexpression lysate (Cat# [LY417391]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC203756 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GPT protein (Cat# [TP303756]). The protein was produced from HEK293T cells transfected with GPT cDNA clone (Cat# RC203756) using MegaTran 2.0 (Cat# [TT210002]).