

## Product datasheet for RC225658

### alpha 1 Antitrypsin (SERPINA1) (NM\_001127703) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	alpha 1 Antitrypsin (SERPINA1) (NM_001127703) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	alpha 1 Antitrypsin
Synonyms:	A1A; A1AT; AAT; alpha1AT; nNIF; PI; PI1; PRO2275
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC225658 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGCCGCTTCTGTCTCGTGGGGCATCCTCCTGCTGGCAGGCCTGTGCTGCCTGGTCCCTGTCTCCCTGG  
CTGAGGATCCCCAGGGAGATGCTGCCAGAAGACAGATACATCCCACCATGATCAGGATCACCCAACCTT  
CAACAAGATCACCCCAACCTGGCTGAGTTCGCCTTCAGCCTATACCGCCAGCTGGCACACCAGTCCAAC  
AGCACCAATATCTTCTTCTCCCACTGAGCATCGCTACAGCCTTTGCAATGCTCTCCCTGGGACCAAGG  
CTGACACTCACGATGAAATCCTGGAGGGCCTGAATTTCAACCTCACGGAGATTCCGGAGGCTCAGATCCA  
TGAAGGCTTCCAGGAACTCCTCCGTACCCTCAACCAGCCAGACAGCCAGCTCCAGCTGACCACCGCAAT  
GGCTTGTTCCTCAGCGAGGGCCTGAAGCTAGTGGATAAGTTTTGGAGGATGTTAAAAAGTTGTACCACT  
CAGAAGCCTTCACTGTCAACTTCGGGGACACCGAAGAGGCCAAGAAACAGATCAACGATTACGTGGAGAA  
GGTACTCAAGGGAAAAATTGTGGATTTGGTCAAGGAGCTTGACAGAGACACAGTTTTGTCTGGTGAAT  
TACATCTTCTTTAAAGGCAATGGGAGAGACCTTTGAAGTCAAGGACACCGAGGAAGAGGACTTCCACG  
TGGACCAGGTGACCACCGTGAAGGTGCCTATGATGAAGCGTTTAGCATGTTAACATCCAGCACTGTA  
GAAGCTGTCCAGCTGGGTGCTGCTGATGAAATACCTGGGCAATGCCACCGCCATCTTCTCTGCCTGAT  
GAGGGGAAACTACAGCACCTGGAAAATGAACTCACCCACGATATCATACCAAGTTCTGGAAAATGAAG  
ACAGAAGGTCTGCCAGTTACATTTACCCAAACTGTCCATTACTGGAACCTATGATCTGAAGAGCGTCT  
GGGTCAACTGGGCATCACTAAGGTCTTACGCAATGGGGCTGACCTCTCCGGGGTACAGAGGAGGCCACC  
CTGAAGCTCTCCAAGCCGTGCATAAGGCTGTGCTGACCATCGACGAGAAAGGGACTGAAGCTGCTGGG  
CCATGTTTTAGAGGCCATACCCATGTCTATCCCCCGAGGTCAAGTTCAACAAACCTTTGTCTTCTT  
AATGATTGACCAAAATACCAAGTCTCCCCTCTTCATGGGAAAAGTGGTGAATCCCACCAAAAA

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >RC225658 protein sequence  
Red=Cloning site Green=Tags(s)

MPSSVSWGILLLAGLCLLPVSLAEDPQGDAAQKTDTSHHQDHPTFNKITPNLAEFASLYRQLAHQSN  
 STNIFFSPVSIATAFAMLSLGTKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNPDSQLQLTTGN  
 GLFLSEGLKLVDFLEDVKKLYHSEFTVNFVGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDRTVFLVN  
 YIFFKKGWERPFVVKDTEEDFHVQVTVKVPMMKRLGMFNIQHCKLSSWVLLMKYLGNATAIFFLPD  
 EGKLQHLENELTHDIITKFLNEDRRSASLHLPKLSITGTYDLKSVLQGLGITKVFVSNADLSGVTEEAP  
 LKLSKAVHKAVLTIDEKGTAAAGAMFLEAIPMSIPPEVKFNKPFVFLMIDQNTKSPLFMGKVVNPTQK

TRTRPLEQKLISEEDLAANDILDYKDDDDKVK

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6305\\_g09.zip](https://cdn.origene.com/chromatograms/mk6305_g09.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_001127703

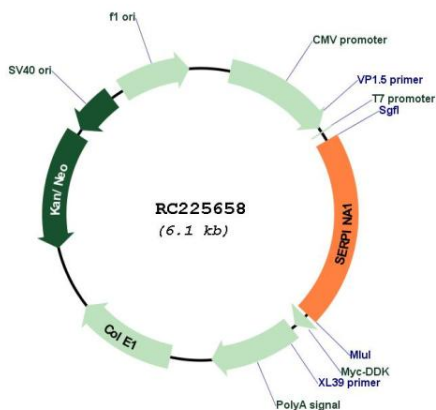
**ORF Size:** 1254 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

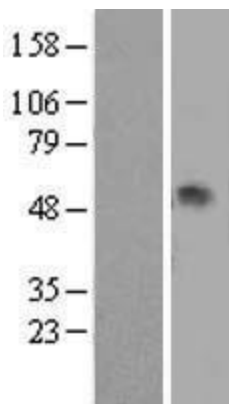
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

<b>OTI Annotation:</b>	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>NM_001127703.1, NP_001121175.1</u>
<b>RefSeq Size:</b>	3495 bp
<b>RefSeq ORF:</b>	1257 bp
<b>Locus ID:</b>	5265
<b>UniProt ID:</b>	<u>P01009</u>
<b>Cytogenetics:</b>	14q32.13
<b>Protein Families:</b>	Druggable Genome, ES Cell Differentiation/IPS, Secreted Protein
<b>Protein Pathways:</b>	Complement and coagulation cascades
<b>MW:</b>	46.7 kDa
<b>Gene Summary:</b>	The protein encoded by this gene is a serine protease inhibitor belonging to the serpin superfamily whose targets include elastase, plasmin, thrombin, trypsin, chymotrypsin, and plasminogen activator. This protein is produced in the liver, the bone marrow, by lymphocytic and monocytic cells in lymphoid tissue, and by the Paneth cells of the gut. Defects in this gene are associated with chronic obstructive pulmonary disease, emphysema, and chronic liver disease. Several transcript variants encoding the same protein have been found for this gene. [provided by RefSeq, Aug 2020]

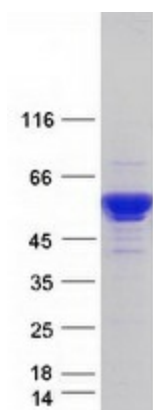
Product images:



Circular map for RC225658



Western blot validation of overexpression lysate (Cat# [LY426858]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with [RC225668] using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified SERPINA1 protein (Cat# [TP325658]). The protein was produced from HEK293T cells transfected with SERPINA1 cDNA clone (Cat# RC225658) using MegaTran 2.0 (Cat# [TT210002]).