

Product datasheet for RC202082

alpha 1 Antitrypsin (SERPINA1) (NM_000295) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	alpha 1 Antitrypsin (SERPINA1) (NM_000295) 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:	>RC202082 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCCGCTTCTGTCTCGTGGGGCATCCTCCTGCTGGCAGGCCTGTGCTGCCTGGTCCCTGTCTCCCTGG
CTGAGGATCCCCAGGGAGATGCTGCCAGAAGACAGATACATCCCACCATGATCAGGATCACCCAACCTT
CAACAAGATCACCCCAACCTGGCTGAGTTCGCCTTCAGCCTATACCGCCAGCTGGCACACCAGTCCAAC
AGCACCAATATCTTCTTCCCCAGTGAGCATCGCTACAGCCTTTGCAATGCTCTCCCTGGGGACCAAGG
CTGACACTCACGATGAAATCCTGGAGGGCCTGAATTTCAACCTCACGGAGATTCCGGAGGCTCAGATCCA
TGAAGGCTTCCAGGAACTCCTCCGTACCCTCAACCAGCCAGACAGCCAGCTCCAGCTGACCACCGGCAAT
GGCTTGTTCCTCAGCGAGGGCCTGAAGCTAGTGGATAAGTTTTGGAGGATGTTAAAAAGTTGTACCACT
CAGAAGCCTTCACTGTCAACTTCGGGGACACCGAAGAGGCCAAGAAACAGATCAACGATTACGTGGAGAA
GGTACTCAAGGGAAAAATTGTGGATTTGGTCAAGGAGCTTGACAGAGACACAGTTTTGTCTGGTGAAT
TACATCTTCTTTAAAGGCAATGGGAGAGACCCCTTTGAAGTCAAGGACACCGAGGAAGAGGACTTCCACG
TGGACCAGGTGACCACCGTGAAGGTGCCTATGATGAAGCGTTTAGCATGTTAACATCCAGCACTGTAA
GAAGCTGTCCAGCTGGGTGCTGCTGATGAAATACCTGGGCAATGCCACCGCCATCTTCTCTGCCTGAT
GAGGGAAACTACAGCACCTGGAAAATGAACTCACCCACGATATCATACCAAGTTCTGGAAAAATGAAG
ACAGAAGGTCTGCCAGTTACATTTACCCAAACTGTCCATTACTGGAACCTATGATCTGAAGAGCGTCT
GGGTCAACTGGGCATCACTAAGGTCTTACGAATGGGGCTGACCTCTCCGGGGTACAGAGGAGGCCACCC
CTGAAGCTCTCCAAGGCCGTGCATAAGGCTGTGCTGACCATCGACGAGAAAGGGACTGAAGCTGCTGGG
CCATGTTTTAGAGGCCATACCCATGTCTATCCCCCGAGGTCAAGTTCAACAAACCTTTGTCTTCTT
AATGATTGACCAAAATACCAAGTCTCCCCTCTTCATGGGAAAAGTGGTGAATCCCACCAAAAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC202082 protein sequence
 Red=Cloning site Green=Tags(s)

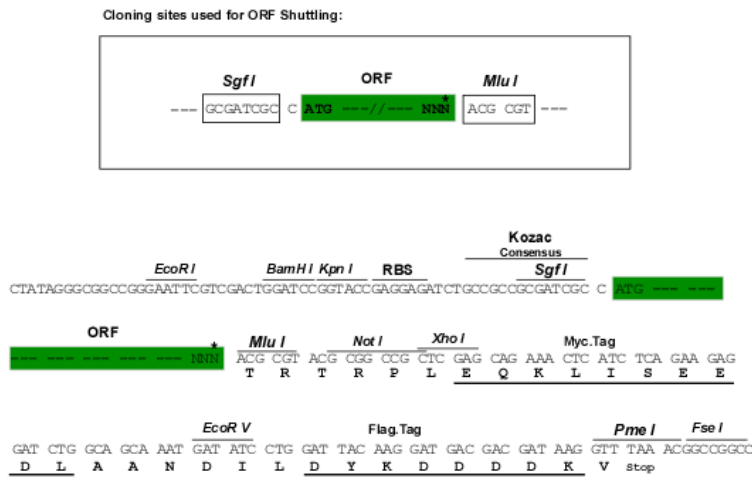
MPSSVSWGILLLAGLCLLPVSLAEDPQGDAQAQKTDTSHHQDHPNFKITPNLAFAFSLYRQLAHQSN
 STNIFFSPVSIATAFAMLSLGTKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNPDSQLQLTTGN
 GLFLSEGLKLVDFLEDVKKLYHSEFTVNFVGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDITVFLVN
 YIFFKWKWERPFVVDTEEDFHVVDQVTTVKVPMKRLGMFNIQHCKKLSWVLLMKYLGNATAIFFLPD
 EGKQLHLENELTHDIITKFLNEDRRSASLHLPKLSITGTYDLKSVLQGLGITKVFVSNAGADLSGVTEEAP
 LKLSKAVHKAVLTIDEKGTAAAGAMFLEAIPMSIPPEVKFNKPFVFLMIDQNTKSPLFMGKVVNPTQK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6011_d05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



* The last codon before the Stop codon of the ORF

ACCN: NM_000295

ORF Size: 1254 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_000295.2](#)

RefSeq Size: 3220 bp

RefSeq ORF: 1257 bp

Locus ID: 5265

UniProt ID: [P01009](#)

Cytogenetics: 14q32.13

Domains: SERPIN

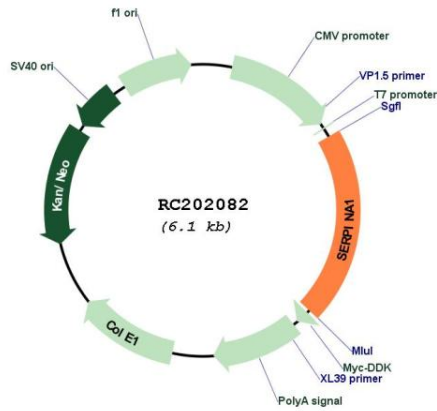
Protein Families: Druggable Genome, ES Cell Differentiation/IPS, Secreted Protein

Protein Pathways: Complement and coagulation cascades

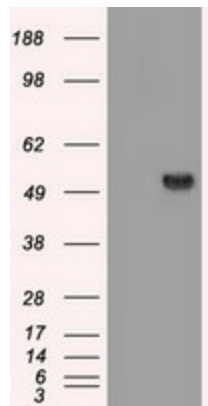
MW: 46.7 kDa

Gene Summary: 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]

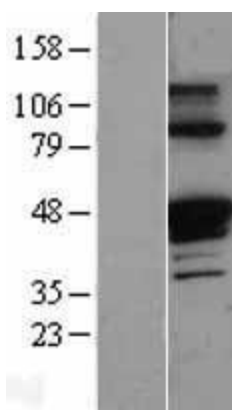
Product images:



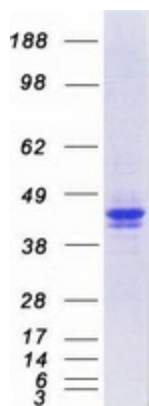
Circular map for RC202082



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY SERPINA1 (Cat# RC202082, 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-SERPINA1(Cat# [TA500374]). Positive lysates [LY400112] (100ug) and [LC400112] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400112]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202082 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified SERPINA1 protein (Cat# [TP302082]). The protein was produced from HEK293T cells transfected with SERPINA1 cDNA clone (Cat# RC202082) using MegaTran 2.0 (Cat# [TT210002]).