

Product datasheet for **RG20282**

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:	TurboGFP
Symbol:	alpha 1 Antitrypsin
Synonyms:	A1A; A1AT; AAT; alpha1AT; nNIF; PI; PI1; PRO2275
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG20282 representing NM_000295 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCCGCTTCTGTCTCGTGGGGCATCCTCCTGCTGGCAGGCCTGTGCTGCCTGGTCCCTGTCTCCCTGG
CTGAGGATCCCCAGGGAGATGCTGCCAGAAGACAGATACATCCCACCATGATCAGGATCACCCAACCTT
CAACAAGATCACCCCAACCTGGCTGAGTTCGCCTTCAGCCTATACCGCCAGCTGGCACACCAGTCCAAC
AGCACCAATATCTTCTTCCCCAGTGAGCATCGCTACAGCCTTTGCAATGCTCTCCTGGGGACCAAGG
CTGACACTCACGATGAAATCCTGGAGGGCCTGAATTTCAACCTCACGGAGATTCCGGAGGCTCAGATCCA
TGAAGGCTTCCAGGAACTCCTCCGTACCCTCAACCAGCCAGACAGCCAGCTCCAGCTGACCACCGGCAAT
GGCTTGTTCCTCAGCGAGGGCCTGAAGCTAGTGGATAAGTTTTGGAGGATGTTAAAAAGTTGTACCACT
CAGAAGCCTTCACTGTCAACTTCGGGGACACCGAAGAGGCCAAGAAACAGATCAACGATTACGTGGAGAA
GGTACTCAAGGGAAAAATTGTGGATTTGGTCAAGGAGCTTGACAGAGACACAGTTTTGTCTGGTGAAT
TACATCTTCTTAAAGGCAATGGGAGAGACCTTTGAAGTCAAGGACACCGAGGAAGAGGACTTCCACG
TGGACCAGGTGACCACCGTGAAGGTGCCTATGATGAAGCGTTTAGGCATGTTAACATCCAGCACTGTA
GAAGCTGTCCAGCTGGGTGCTGCTGATGAAATACCTGGGCAATGCCACCGCCATCTTCTCCTGCCTGAT
GAGGGAAACTACAGCACCTGGAAAATGAACTCACCCACGATATCATACCAAGTTCTGGAAAATGAAG
ACAGAAGGTCTGCCAGTTACATTTACCCAAACTGTCCATTACTGGAACCTATGATCTGAAGAGCGTCT
GGGTCAACTGGGCATCACTAAGGTCTTACGCAATGGGGCTGACCTCTCCGGGGTACAGAGGAGGCCACC
CTGAAGCTCTCCAAGGCCGTGCATAAGGCTGTGCTGACCATCGACGAGAAAGGGACTGAAGCTGCTGGG
CCATGTTTTAGAGGCCATACCCATGTCTATCCCCCGAGGTCAAGTTCAACAAACCTTTGTCTTCTT
AATGATTGACCAAAATACCAAGTCTCCCCTCTTCATGGGAAAAGTGGTGAATCCCACCAAAAA

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >RG202082 representing NM_000295
 Red=Cloning site Green=Tags(s)

MPSSVSWGILLLAGLCLLPVSLAEDPQGDAAQKTDTSHHDDHPTFNKITPNLAEFASFSLYRQLAHQSN
 STNIFFSPVSIATAFAMLSLGTKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNPDSQLQLTTGN
 GLFLSEGLKLVDFLEDVKKLYHSEAFVNFVGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDRTVFALVN
 YIFFKKGWERPFVVKDTEEDFHVVDQVTTVKVPMMKRLGMFNIQHCKKLSWVLLMKYLGNATAIFFLPD
 EGKLQHLLENLTHDIITKFLNEDRRSASLHLPKLSITGTYDLKSVLQGLGITKVFVNGADLSGVTEEAP
 LKLSKAVHKAVLTIDEKTEAAGAMFLEAIPMSIPPEVKFNKPFVFLMIDQNTKSPLFMGKVVNPTQK

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



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.

RefSeq: [NM_000295.2](#)

RefSeq Size: 1607 bp

RefSeq ORF: 1257 bp

Locus ID: 5265

UniProt ID: [P01009](#)

Cytogenetics: 14q32.13

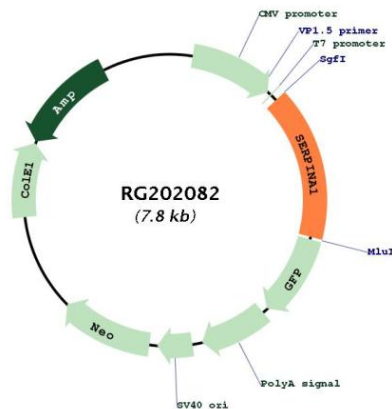
Domains: SERPIN

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

Protein Pathways: Complement and coagulation cascades

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 RG202082