Genome Network Project_Full -Length cDNA clone　　Gene Engineering Division RIKEN BRC

RIKEN_Clone_ID : IRAK021D06

Lot#: 7893_B4Fb

Vector : pCMV-SPORT6

Gene	SERPINA1	
Accession No.	BC011991.1	1584 bp
	CDS	1257 bp

● Plasmid DNA purification

Date : 2024/06/11　　Culture : LB（100 ug/ml Ampicillin） 5 ml -> at 37 deg C over night

Date : 2024/06/12　　Purification : QIAGEN Miniprep kit -> dH_2O 100 ul

● Digestion by restriction enzyme/Concentrarion calibration

Date : 2024/06/12

DNA concentration（O.D.）: 350 ng/ul

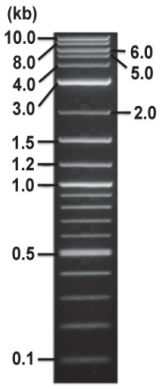
DNA	0.3	ul
Enzyme（EcoRI + XhoI ）	0.5 + 0.5	ul
Buffer H	1	ul
dH_2O	7.7	ul
Total	10	ul

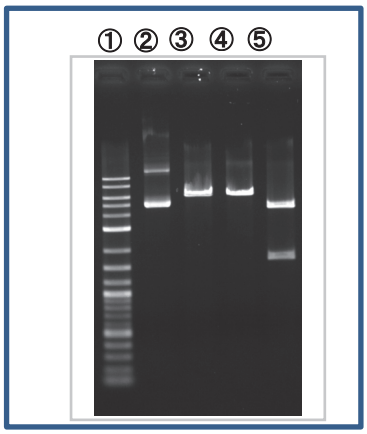
< Size of fragment expected from this clone >

EcoRI	5.9 kb	
XhoI	5.9 kb	
EcoRI + XhoI	4.3kb (Vector)	1.6kb

Erectrophoresis : 1% agarose gel, 1x TAE Buffer

Marker : 2-Log DNA Ladder（NEB#N3200L）





①:Marker
②:uncut
③:EcoRI
④:XhoI
⑤:EcoRI + XhoI

● Confirmation of the sequence

検 '24.11.26 笹沼

Date : 2024/06/13

full sequence	IRAK021D06hts01.seq

● Adjust plasmid DNA solution to 25 ng/ul

Date : 2024/06/18

DNA（ 350 ng/ul）	86	ul
10x TE	120	ul
dH_2O	998	ul
Total	1,204	ul

● Shipping

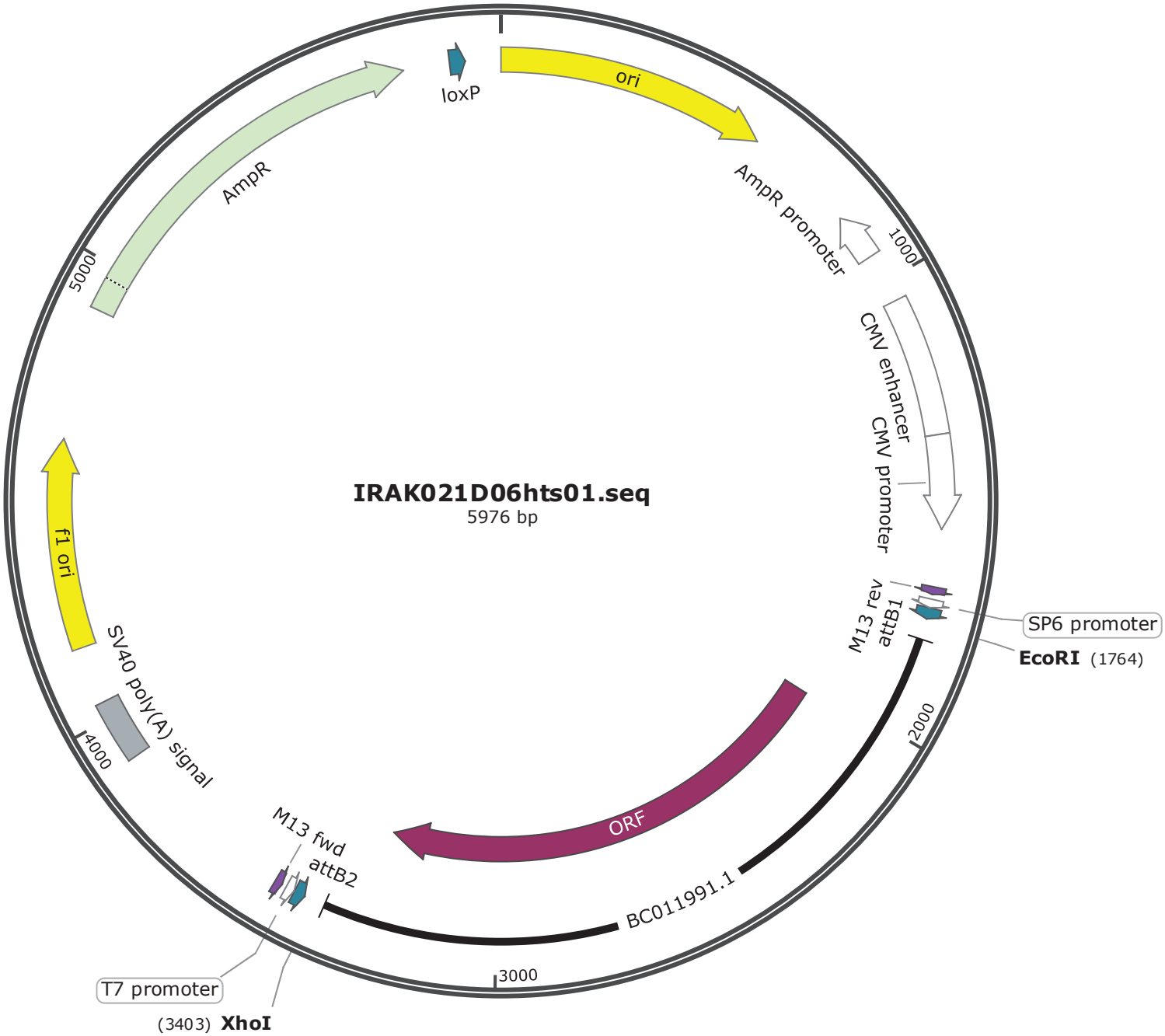
☑ Conc. : 25 ng/μl, Volume : 40 μl

☐ Conc. : ng/μl, Volume : μl

APPROVED BY :

検 '24.06.18 笹沼　検 '24.11.26 笹沼

http://dna.brc.riken.jp/index.html


IRAK021D06hts01.seq
5976 bp
loxP
ori
AmpR promoter
1000
CMV enhancer
CMV promoter
M13 rev
attB1
SP6 promoter
EcoRI (1764)
2000
ORF
BC011991.1
3000
M13 fwd
attB2
T7 promoter
(3403) XhoI
4000
SV40 poly(A) signal
f1 ori
5000
AmpR

BLAST Results

Questions/comments

Blast 2 sequences

Job title: BC011399:Homo sapiens spleen tyrosine kinase,...

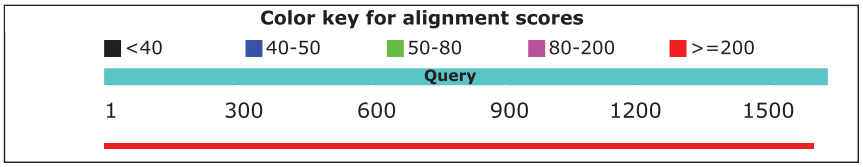
RID MAVT4PVD114 (Expires on 11-27 13:48 pm)

Query ID	BC011991.1	**Subject ID**	lcl|Query_309653
Description	Homo sapiens serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 1, mRNA (cDNA clone MGC:9222 IMAGE:3859644), complete cds	**Description**	None See details
Molecule type	nucleic acid	**Molecule type**	dna
Query Length	1584	**Subject Length**	5978
		Program	BLASTN 2.16.1+

IRAK021D06hts01.seq

Graphic Summary

Distribution of the top 2 Blast Hits on 1 subject sequences



Dot Matrix View

Descriptions

Sequences producing significant alignments:

Description	Max Score	Total Score	Query Cover	E value	Per. Ident	Accession
None provided	3046	3073	100%	0.0	100.00%	Query_309653

Alignments

Sequence ID: Query_309653 Length: 5978 Number of Matches: 2
Range 1: 1797 to 3380

Score	Expect	Identities	Gaps	Strand	Frame
3046 bits(1584)	0.0()	1584/1584(100%)	0/1584(0%)	Plus/Plus	

Features:

```
Query          1     AAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAG  60
Sbjct          1797  ............................................................  1856

Query          61    CCAGTGGACTTAGCCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTCA  120
Sbjct          1857  ............................................................  1916

Query          121   CCAGCAGCCTCCCCCGTTGCCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGC  180
Sbjct          1917  ............................................................  1976

CDS:Serpin peptidase  1                                                  M  P  S
Query          181   CCTGTCTCCTCAGCTTCAGGCACCACCACTGACCTGGGACAGTGAATCGACAATGCCGTC  240
Sbjct          1977  ............................................................  2036

CDS:Serpin peptidase  4     S  V  S  W  G  I  L  L  L  A  G  L  C  C  L  V  P  V  S  L
Query          241   TTCTGTCTCGTGGGGCATCCTCCTGCTGGCAGGCCTGTGCTGCCTGGTCCCTGTCTCCCT  300
Sbjct          2037  ............................................................  2096

CDS:Serpin peptidase  24    A  E  D  P  Q  G  D  A  A  Q  K  T  D  T  S  H  H  D  Q  D
Query          301   GGCTGAGGATCCCCAGGGAGATGCTGCCCAGAAGACAGATACATCCCACCATGATCAGGA  360
Sbjct          2097  ............................................................  2156

CDS:Serpin peptidase  44    H  P  T  F  N  K  I  T  P  N  L  A  E  F  A  F  S  L  Y  R
Query          361   TCACCCAACCTTCAACAAGATCACCCCCAACCTGGCTGAGTTCGCCTTCAGCCTATACCG  420
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Sbjct                2157 ..................................................  2216

CDS:Serpin peptidase   64     Q  L  A  H  Q  S  N  S  T  N  I  F  F  S  P  V  S  I  A  T
Query                 421   CCAGCTGGCACACCAGTCCAACAGCACCAATATCTTCTTCTCCCCAGTGAGCATCGCTAC  480
Sbjct                2217 ..................................................  2276

CDS:Serpin peptidase   84     A  F  A  M  L  S  L  G  T  K  A  D  T  H  D  E  I  L  E  G
Query                 481   AGCCTTTGCAATGCTCTCCCTGGGGACCAAGGCTGACACTCACGATGAAATCCTGGAGGG  540
Sbjct                2277 ..................................................  2336

CDS:Serpin peptidase  104     L  N  F  N  L  T  E  I  P  E  A  Q  I  H  E  G  F  Q  E  L
Query                 541   CCTGAATTTCAACCTCACGGAGATTCCGGAGGCTCAGATCCATGAAGGCTTCCAGGAACT  600
Sbjct                2337 ..................................................  2396

CDS:Serpin peptidase  124     L  R  T  L  N  Q  P  D  S  Q  L  Q  L  T  T  G  N  G  L  F
Query                 601   CCTCCGTACCCTCAACCAGCCAGACAGCCAGCTCCAGCTGACCACCGGCAATGGCTTGTT  660
Sbjct                2397 ..................................................  2456

CDS:Serpin peptidase  144     L  S  E  G  L  K  L  V  D  K  F  L  E  D  V  K  K  L  Y  H
Query                 661   CCTCAGCGAGGGCCTGAAGCTAGTGGATAAGTTTTTGGAGGATGTTAAAAAGTTGTACCA  720
Sbjct                2457 ..................................................  2516

CDS:Serpin peptidase  164     S  E  A  F  T  V  N  F  G  D  T  E  E  A  K  K  Q  I  N  D
Query                 721   CTCAGAAGCCTTCACTGTCAACTTCGGGGACACCGAAGAGGCCAAGAAACAGATCAACGA  780
Sbjct                2517 ..................................................  2576

CDS:Serpin peptidase  184     Y  V  E  K  G  T  Q  G  K  I  V  D  L  V  K  E  L  D  R  D
Query                 781   TTACGTGGAGAAGGGTACTCAAGGGAAAATTGTGGATTTGGTCAAGGAGCTTGACAGAGA  840
Sbjct                2577 ..................................................  2636

CDS:Serpin peptidase  204     T  V  F  A  L  V  N  Y  I  F  F  K  G  K  W  E  R  P  F  E
Query                 841   CACAGTTTTTGCTCTGGTGAATTACATCTTCTTTAAAGGCAAATGGGAGAGACCCTTTGA  900
Sbjct                2637 ..................................................  2696

CDS:Serpin peptidase  224     V  K  D  T  E  E  E  D  F  H  V  D  Q  V  T  T  V  K  V  P
Query                 901   AGTCAAGGACACCGAGGAAGAGGACTTCCACGTGGACCAGGTGACCACCGTGAAGGTGCC  960
Sbjct                2697 ..................................................  2756

CDS:Serpin peptidase  244     M  M  K  R  L  G  M  F  N  I  Q  H  C  K  K  L  S  S  W  V
Query                 961   TATGATGAAGCGTTTAGGCATGTTTAACATCCAGCACTGTAAGAAGCTGTCCAGCTGGGT 1020
Sbjct                2757 ..................................................  2816

CDS:Serpin peptidase  264     L  L  M  K  Y  L  G  N  A  T  A  I  F  F  L  P  D  E  G  K
Query                1021   GCTGCTGATGAAATACCTGGGCAATGCCACCGCCATCTTCTTCCTGCCTGATGAGGGGAA 1080
Sbjct                2817 ..................................................  2876

CDS:Serpin peptidase  284     L  Q  H  L  E  N  E  L  T  H  D  I  I  T  K  F  L  E  N  E
Query                1081   ACTACAGCACCTGGAAAATGAACTCACCCACGATATCATCACCAAGTTCCTGGAAAATGA 1140
Sbjct                2877 ..................................................  2936

CDS:Serpin peptidase  304     D  R  R  S  A  S  L  H  L  P  K  L  S  I  T  G  T  Y  D  L
Query                1141   AGACAGAAGGTCTGCCAGCTTACATTTACCCAAACTGTCCATTACTGGAACCTATGATCT 1200
Sbjct                2937 ..................................................  2996

CDS:Serpin peptidase  324     K  S  V  L  G  Q  L  G  I  T  K  V  F  S  N  G  A  D  L  S
Query                1201   GAAGAGCGTCCTGGGTCAACTGGGCATCACTAAGGTCTTCAGCAATGGGGCTGACCTCTC 1260
Sbjct                2997 ..................................................  3056

CDS:Serpin peptidase  344     G  V  T  E  E  A  P  L  K  L  S  K  A  V  H  K  A  V  L  T
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Query                1261   CGGGGTCACAGAGGAGGCACCCCTGAAGCTCTCCAAGGCCGTGCATAAGGCTGTGCTGAC 1320
Sbjct                3057 ..................................................  3116

CDS:Serpin peptidase  364     I  D  E  K  G  T  E  A  A  G  A  M  F  L  E  A  I  P  M  S
Query                1321   CATCGACGAGAAAGGGACTGAAGCTGCTGGGGCCATGTTTTTAGAGGCCATACCCATGTC 1380
Sbjct                3117 ..................................................  3176

CDS:Serpin peptidase  384     I  P  P  E  V  K  F  N  K  P  F  V  F  L  M  I  D  Q  N  T
Query                1381   TATccccccGAGGTCAAGTTCAACAAACCCTTTGTCTTCTTAATGATTGACCAAAATAC 1440
Sbjct                3177 ..................................................  3236

CDS:Serpin peptidase  404     K  S  P  L  F  M  G  K  V  V  N  P  T  Q  K
Query                1441   CAAGTCTCCCCTCTTCATGGGAAAAGTGGTGAATCCCACCCAAAAATAACTGcctctcgc 1500
Sbjct                3237 ..................................................  3296

Query                1501   tcctcaacccctcccctccatccctggcccccctccctGGATGACATTAAAGAAGGGTTGA 1560
Sbjct                3297 ..................................................  3356

Query                1561   GCTGGaaaaaaaaaaaaaaaaaa  1584
Sbjct                3357 ......................  3380
```

Range 2: 1969 to 1982

Score	Expect	Identities	Gaps	Strand	Frame
27.6 bits(14)	0.046()	14/14(100%)	0/14(0%)	Plus/Minus	

Features:

```
Query  173   GACAGGGCCCTGTC  186
Sbjct  1982  ..............  1969
```

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BLAST Results

Questions/comments

Blast 2 sequences

Job title: NM_001002236:Homo sapiens serpin family A...

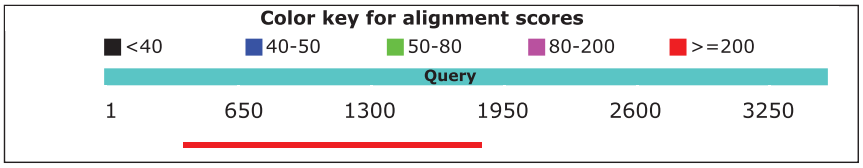
RID M00FXJ45114 (Expires on 11-23 11:01 am)

Query ID NM_001002236.3
Description Homo sapiens serpin family A member 1 (SERPINA1), transcript variant 2, mRNA
Molecule type nucleic acid
Query Length 3456

Subject ID BC011991.1
Description Homo sapiens serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 1, mRNA (cDNA clone MGC:9222 IMAGE:3859644), complete cds
See details
Molecule type nucleic acid
Subject Length 1584
Program BLASTN 2.16.1+

Graphic Summary

Distribution of the top 1 Blast Hits on 1 subject sequences



Dot Matrix View

Descriptions

Sequences producing significant alignments:

Description	Max Score	Total Score	Query Cover	E value	Per. Ident	Accession
Homo sapiens serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 1, mRNA (cDNA clone MGC:9222 IMAGE:3859644), complete cds	2652	2652	41%	0.0	99.86%	BC011991.1

Alignments

Homo sapiens serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 1, mRNA (cDNA clone MGC:9222 IMAGE:3859644), complete cds

Sequence ID: **BC011991.1** Length: 1584 Number of Matches: 1
Range 1: 124 to 1565

Score	Expect	Identities	Gaps	Strand	Frame
2652 bits(1436)	0.0()	1440/1442(99%)	0/1442(0%)	Plus/Plus	

Features:

```
Query              389  GCAGCCTCCCCCGTTGCCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCT  448
Sbjct              124  ............................................................  183

CDS:alpha-1-antitryp 1                                                  M  P  S  S
Query              449  GTCTCCTCAGCTTCAGGCACCACCACTGACCTGGGACAGTGAATCGACAATGCCGTCTTC  508
Sbjct              184  ............................................................  243
CDS:Serpin peptidase 1                                                  M  P  S  S

CDS:alpha-1-antitryp 5     V  S  W  G  I  L  L  L  A  G  L  C  C  L  V  P  V  S  L  A
Query              509  TGTCTCGTGGGGCATCCTCCTGCTGGCAGGCCTGTGCTGCCTGGTCCCTGTCTCCCTGGC  568
Sbjct              244  ............................................................  303
CDS:Serpin peptidase 5     V  S  W  G  I  L  L  L  A  G  L  C  C  L  V  P  V  S  L  A

CDS:alpha-1-antitryp 25    E  D  P  Q  G  D  A  A  Q  K  T  D  T  S  H  H  D  Q  D  H
Query              569  TGAGGATCCCCAGGGAGATGCTGCCCAGAAGACAGATACATCCCACCATGATCAGGATCA  628
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Sbjct                 304  ..........................................................  363
CDS:Serpin peptidase   25    E  D  P  Q  G  D  A  A  Q  K  T  D  T  S  H  H  D  Q  D  H

CDS:alpha-1-antitryp   45    P  T  F  N  K  I  T  P  N  L  A  E  F  A  F  S  L  Y  R  Q
Query                 629  CCCAACCTTCAACAAGATCACCCCCAACCTGGCTGAGTTCGCCTTCAGCCTATACCGCCA  688
Sbjct                 364  ..........................................................  423
CDS:Serpin peptidase   45    P  T  F  N  K  I  T  P  N  L  A  E  F  A  F  S  L  Y  R  Q

CDS:alpha-1-antitryp   65    L  A  H  Q  S  N  S  T  N  I  F  F  S  P  V  S  I  A  T  A
Query                 689  GCTGGCACACCAGTCCAACAGCACCAATATCTTCTTCTCCCCAGTGAGCATCGCTACAGC  748
Sbjct                 424  ..........................................................  483
CDS:Serpin peptidase   65    L  A  H  Q  S  N  S  T  N  I  F  F  S  P  V  S  I  A  T  A

CDS:alpha-1-antitryp   85    F  A  M  L  S  L  G  T  K  A  D  T  H  D  E  I  L  E  G  L
Query                 749  CTTTGCAATGCTCTCCCTGGGGACCAAGGCTGACACTCACGATGAAATCCTGGAGGGCCT  808
Sbjct                 484  ..........................................................  543
CDS:Serpin peptidase   85    F  A  M  L  S  L  G  T  K  A  D  T  H  D  E  I  L  E  G  L

CDS:alpha-1-antitryp  105    N  F  N  L  T  E  I  P  E  A  Q  I  H  E  G  F  Q  E  L  L
Query                 809  GAATTTCAACCTCACGGAGATTCCGGAGGCTCAGATCCATGAAGGCTTCCAGGAACTCCT  868
Sbjct                 544  ..........................................................  603
CDS:Serpin peptidase  105    N  F  N  L  T  E  I  P  E  A  Q  I  H  E  G  F  Q  E  L  L

CDS:alpha-1-antitryp  125    R  T  L  N  Q  P  D  S  Q  L  Q  L  T  T  G  N  G  L  F  L
Query                 869  CCGTACCCTCAACCAGCCAGACAGCCAGCTCCAGCTGACCACCGGCAATGGCCTGTTCCT  928  921 C>T
Sbjct                 604  ..........T...............................................  663
CDS:Serpin peptidase  125    R  T  L  N  Q  P  D  S  Q  L  Q  L  T  T  G  N  G  L  F  L

CDS:alpha-1-antitryp  145    S  E  G  L  K  L  V  D  K  F  L  E  D  V  K  K  L  Y  H  S
Query                 929  CAGCGAGGGCCTGAAGCTAGTGGATAAGTTTTTGGAGGATGTTAAAAAGTTGTACCACTC  988
Sbjct                 664  ..........................................................  723
CDS:Serpin peptidase  145    S  E  G  L  K  L  V  D  K  F  L  E  D  V  K  K  L  Y  H  S

CDS:alpha-1-antitryp  165    E  A  F  T  V  N  F  G  D  T  E  E  A  K  K  Q  I  N  D  Y
Query                 989  AGAAGCCTTCACTGTCAACTTCGGGGACACCGAAGAGGCCAAGAAACAGATCAACGATTA  1048
Sbjct                 724  ..........................................................  783
CDS:Serpin peptidase  165    E  A  F  T  V  N  F  G  D  T  E  E  A  K  K  Q  I  N  D  Y

CDS:alpha-1-antitryp  185    V  E  K  G  T  Q  G  K  I  V  D  L  V  K  E  L  D  R  D  T
Query                1049  CGTGGAGAAGGGTACTCAAGGGAAAATTGTGGATTTGGTCAAGGAGCTTGACAGAGACAC  1108
Sbjct                 784  ..........................................................  843
CDS:Serpin peptidase  185    V  E  K  G  T  Q  G  K  I  V  D  L  V  K  E  L  D  R  D  T

CDS:alpha-1-antitryp  205    V  F  A  L  V  N  Y  I  F  F  K  G  K  W  E  R  P  F  E  V
Query                1109  AGTTTTTGCTCTGGTGAATTACATCTTCTTTAAAGGCAAATGGGAGAGACCCTTTGAAGT  1168
Sbjct                 844  ..........................................................  903
CDS:Serpin peptidase  205    V  F  A  L  V  N  Y  I  F  F  K  G  K  W  E  R  P  F  E  V

CDS:alpha-1-antitryp  225    K  D  T  E  E  E  D  F  H  V  D  Q  V  T  T  V  K  V  P  M
Query                1169  CAAGGACACCGAGGAAGAGGACTTCCACGTGGACCAGGTGACCACCGTGAAGGTGCCTAT  1228
Sbjct                 904  ..........................................................  963
CDS:Serpin peptidase  225    K  D  T  E  E  E  D  F  H  V  D  Q  V  T  T  V  K  V  P  M

CDS:alpha-1-antitryp  245    M  K  R  L  G  M  F  N  I  Q  H  C  K  K  L  S  S  W  V  L
Query                1229  GATGAAGCGTTTAGGCATGTTTAACATCCAGCACTGTAAGAAGCTGTCCAGCTGGGTGCT  1288
Sbjct                 964  ..........................................................  1023
CDS:Serpin peptidase  245    M  K  R  L  G  M  F  N  I  Q  H  C  K  K  L  S  S  W  V  L

CDS:alpha-1-antitryp  265    L  M  K  Y  L  G  N  A  T  A  I  F  F  L  P  D  E  G  K  L
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Query                1289  GCTGATGAAATACCTGGGCAATGCCACCGCCATCTTCTTCCTGCCTGATGAGGGGAAACT  1348
Sbjct                1024  ..........................................................  1083
CDS:Serpin peptidase  265    L  M  K  Y  L  G  N  A  T  A  I  F  F  L  P  D  E  G  K  L

CDS:alpha-1-antitryp  285    Q  H  L  E  N  E  L  T  H  D  I  I  T  K  F  L  E  N  E  D
Query                1349  ACAGCACCTGGAAAATGAACTCACCCACGATATCATCACCAAGTTCCTGGAAAATGAAGA  1408
Sbjct                1084  ..........................................................  1143
CDS:Serpin peptidase  285    Q  H  L  E  N  E  L  T  H  D  I  I  T  K  F  L  E  N  E  D

CDS:alpha-1-antitryp  305    R  R  S  A  S  L  H  L  P  K  L  S  I  T  G  T  Y  D  L  K
Query                1409  CAGAAGGTCTGCCAGCTTACATTTACCCAAACTGTCCATTACTGGAACCTATGATCTGAA  1468
Sbjct                1144  ..........................................................  1203
CDS:Serpin peptidase  305    R  R  S  A  S  L  H  L  P  K  L  S  I  T  G  T  Y  D  L  K

CDS:alpha-1-antitryp  325    S  V  L  G  Q  L  G  I  T  K  V  F  S  N  G  A  D  L  S  G
Query                1469  GAGCGTCCTGGGTCAACTGGGCATCACTAAGGTCTTCAGCAATGGGGCTGACCTCTCCGG  1528
Sbjct                1204  ..........................................................  1263
CDS:Serpin peptidase  325    S  V  L  G  Q  L  G  I  T  K  V  F  S  N  G  A  D  L  S  G

CDS:alpha-1-antitryp  345    V  T  E  E  A  P  L  K  L  S  K  A  V  H  K  A  V  L  T  I
Query                1529  GGTCACAGAGGAGGCACCCCTGAAGCTCTCCAAGGCCGTGCATAAGGCTGTGCTGACCAT  1588
Sbjct                1264  ..........................................................  1323
CDS:Serpin peptidase  345    V  T  E  E  A  P  L  K  L  S  K  A  V  H  K  A  V  L  T  I

CDS:alpha-1-antitryp  365    D  E  K  G  T  E  A  A  G  A  M  F  L  E  A  I  P  M  S  I
Query                1589  CGACGAGAAAGGGACTGAAGCTGCTGGGGCCATGTTTTTAGAGGCCATACCCATGTCTAT  1648
Sbjct                1324  ..........................................................  1383
CDS:Serpin peptidase  365    D  E  K  G  T  E  A  A  G  A  M  F  L  E  A  I  P  M  S  I

CDS:alpha-1-antitryp  385    P  P  E  V  K  F  N  K  P  F  V  F  L  M  I  E  Q  N  T  K
Query                1649  ccccccccGAGGTCAAGTTCAACAAACCCTTTGTCTTCTTAATGATTGAACAAAATACCAA  1708  1697 A>C (E400D)
Sbjct                1384  ..........C...............D.....................  1443
CDS:Serpin peptidase  385    P  P  E  V  K  F  N  K  P  F  V  F  L  M  I  D  Q  N  T  K

CDS:alpha-1-antitryp  405    S  P  L  F  M  G  K  V  V  N  P  T  Q  K
Query                1709  GTCTCCCCTCTTCATGGGAAAAGTGGTGAATCCCACCCAAAAATAACTGcctctcgctcc  1768
Sbjct                1444  ..........................................................  1503
CDS:Serpin peptidase  405    S  P  L  F  M  G  K  V  V  N  P  T  Q  K

Query                1769  tcaacccctcccctccatccctggcccccctccctGGATGACATTAAAGAAGGGTTGAGCT  1828
Sbjct                1504  ..........................................................  1563

Query                1829  GG  1830
Sbjct                1564  ..  1565
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