

Gene: BRCA1 - Sequence: NG_005905.2
Date : January 11, 2015

Exon 1 | Start: 1 | End: 213 | Length: 212

```
. . . . .
acttatatttaccgaaactggagacctccattagggcggaagagtgggggattgggacc

. . . . .
tcttcttacgactgctttggacaataggtagcgattctgaccttcgtacagcaattactg

. . . . .
tgatgcaataagccgcaactggaagagtagaggctagagggcaggcactttatggcaaac

. . . . .
tcaggtagaattcttcctcttccgtctctttccttttacgtcatccgggggcagactggg

. . . . .
tggccaatccagagccccgagagacgcttggctctttctgtccctcccatcctctgattg

|-229      |-219      |-209      |-199      |-189      |-179
GTACCTTGATTTCGTATTCTGAGAGGCTGCTGCTTAGCGGTAGCCCCTTGGTTTCCGTGG

|-169      |-159      |-149      |-139      |-129      |-119
CAACGGAAAAGCGCGGAATTACAGATAAATTAATACTGCGACTGCGCGCGGTGAGCTCG

|-109      |-99       |-89       |-79       |-69       |-59
CTGAGACTTCCTGGACGGGGACAGGCTGTGGGGTTTCTCAGATAACTGGGCCCTGCGC

|-49       |-39       |-29       |-19      .      .      .      .
TCAGGAGGCCTTCACCTCTGCTCTGGGTAAAGtagtagagtcccgggaaaggacagg

. . . . .
gggcccgaagtgatgctctggggtactggcgtgggagagtggatttccgaagctgacagat

. . . . .
gggtattctttgacgggggtaggggcggaacctgagaggcgtaaggcgttgtgaaccct

. . . . .
ggggaggggggcagttttaggtcgcgagggaagcgctgaggatcaggaagggggcactg

. . . . .
agtgtccgtgggggaatcctcgtgataggaactggaatatgccttgagggggacactatg
```

.
tctttaaaaacgtcggctggtcatgaggtcagg

Exon 2 | Start: 214 | End: 312 | Length: 98

.
ggctaccaccacctaccggtcagtcactcctctgtagctttctctttcttgagaaagg

.
aaaagacccaaggggttggcagcaatatgtgaaaaattcagaatttatgttgtctaatt

.
acaaaaagcaacttctagaatctttaaaaataaaggacgttgtcattagttctttggttt

.
gtattattctaaaaccttccaaatcttaaatttactttattttaaatgataaaatgaag

.
ttgtcattttataaaccttttaaaaagatatatatatgtttttctaattgtgttaaagt

| -9	| 1	| 11	| 21	| 31	| 41
TTCATTGGAACAGAAAGAAATGGATTTATCTGCTCTTCGCGTTGAAGAAGTACAAAATGT					
M D L S A L R V E E V Q N V					
| 1				| 11	

| 51	| 61	| 71	. . . . .
CATTAATGCTATGCAGAAAATCTTAGAGTGTCCCATCTGgtaagtcagcacaaagagtgtg			
I N A M Q K I L E C P I C			
| 21			

.
ttaatttgggattcctatgattatctcctatgcaaataaacagaattgaccttacatact

.
agggagaagaaagacatgtctagtaagattaggctattgtaattgctgattttcttaactg

.
aagaactttaaaaatatagaaaatgattccttggttctccatccactctgcctctccact

.
cctctccttttcaacacaaatcctgtggtccgggaagacagggactctgtcttgattgg

Exon 4 | Start: 367 | End: 444 | Length: 77

```
. . . . .
atgaatatatcattaaatatgccatattaactttttattaagttttatgtgatcataacag
. . . . .
taagccatatgcatgtaagttcagttttcatagatcattgcttatgtagtttaggtttt
. . . . .
gcttatgcagcatccaaaacaattaggaaactattgcttgtaattcacctgccattact
. . . . .
ttttaaatggctcttaagggcagttgtgagattatctttcatggctatttgcctttga
. . . . .
gtattctttctacaaaaggaagtaaattggtctttctttctttataatttataga
      |141      |151      |161      |171      |181      |191
ATTTTGCATGCTGAAACTTCTCAACCAGAAGAAAGGCCTTCACAGTGTCTTTATGTAA
  F  C  M  L  K  L  L  N  Q  K  K  G  P  S  Q  C  P  L  C  K
                |51                                |61

      |201      |211      . . . . .
GAATGATATAACCAAAAGgtatataatttggtaatgatgctagggttgaagcaaccacag
  N  D  I  T  K  R
                |71

. . . . .
taggaaaaagtagaaattatttaataacatagcgttcctataaaaccattcatcagaaaa
. . . . .
atttataaaagagtttttagcacacagtaaattatttccaaagttattttcctgaaagtt
. . . . .
ttatgggacatctgccttatacaggtattagaaacttactgcctttctctaattgcttcta
. . . . .
gtgtaaaaacttgcagacttatgtaaagtagggctgtatcgccgtgccccattgtctgt
. . . . .
taatcttgtttttatatt
```

Exon 5 | Start: 445 | End: 533 | Length: 88

```
. . . . .
aattaaacaaaaaaaaaagtactctagttttctatgcaatgcattatatctgctgtggat

. . . . .
ttagggcagttattatatcagataattttaggcatttggtaggcttaaatgaatgacaaaa

. . . . .
agttactaaatcactgccatcacacggttttatacagatgtcaatgatgtattgattatag

. . . . .
aggttttctactgttgctgcatcttatttttattgtttacatgtcttttcttatttttag

. . . . .
tgtccttaaaagggttgataatcacttgctgagtggtgtttctcaaacaatttaatttcagg

      |221      |231      |241      |251      |261      |271
GAGCCTACAAGAAAGTACGAGATTTAGTCAACTTGTTGAAGAGCTATTGAAAATCATTTG
S L Q E S T R F S Q L V E E L L K I I C
                        |81                                |91

      |281      |291      |301 . . . . .
TGCTTTTCAGCTTGACACAGGTTTGGAGTgtaagtggtgaatatcccaagaatgacactc
A F Q L D T G L E Y
                        |101

. . . . .
aagtgtgtccatgaaaactcaggaagtttgcaattactttctatgacgtggtgataa

. . . . .
gaccttttagtctaggttaatttttagttctgtatctgtaatctatttttaaaaaattact

. . . . .
cccactgggtctcacaccttattttatcaatcgtaagggtgcacatttttcacatcttaaca

. . . . .
tctctgaaattgggaacattttactattgagggtgtgtcatttgtttaatttggtgtgctt

. . . . .
tcttttcttagtgatacagaaaataatagt
```

Exon 6 | Start: 534 | End: 673 | Length: 139

.
acattgttggtgtccttagcttttagtgaaatacagtattgataggcaaatttccttagtgtt

.
aaggtagaaaacaaggactctaaataactttgatggctctgtgtatttgttttgtttcct

.
aggagtaaaatttcagttgattttttaaaatttgatttttaaaaaaatcacaggtaac

.
cttaatgcattgtcttaacacaacaagagcatatagggtttctcttggtttctttga

.
ttataattcatacatTTTTCTCTAACTGCAAACATAATGTTTTCCCTGTATTTTACAGA

|311	|321	|331	|341	|351	|361
ATGCAAACAGCTATAATTTTGCAAAAAAGGAAAAATAACTCTCCTGAACATCTAAAAGATG					
A	N	S	Y	N	F
A	K	K	E	N	N
S	P	E	H	L	K
D	E				
		|111			|121

|371	|381	|391	|401	|411	|421
AAGTTTCTATCATCCAAAGTATGGGCTACAGAAACCGTGCCAAAAGACTTCTACAGAGTG					
V	S	I	I	Q	S
M	G	Y	R	N	R
A	K	R	L	L	Q
S	E				
		|131			|141

|431	|441	.	.	.	.	.	.	.	.
AACCCGAAAATCCTTCCTTGgtaaaaccatttgttttcttcttcttcttcttcttctt									
P	E	N	P	S	L				

.
ctttttttttctttttttttttgagatggagtccttgctctgtggcccaggctagaagc

.
agtcctcctgccttagcccccttagtagctgggattacaggcacgcgccaccatgccagg

.
ctaatttttgatttttagtagagacggggtttcatcatgttgccaggctggtctcgaa

.
ctcctaacctcaggtgatccaccacctcggctcccaaattgctgggattacaggtgtg

. . . .
agccactgtgccgcccgt

Exon 7 | Start: 674 | End: 779 | Length: 105

.
ctactactattatgttagagactgggtctcactctgttgcttatgctggctctgaact

.
cctggcctcaagcagtcctgctccagcctccaaagtgctgggattataggcatgagcta

.
ccgctcccagccccagacatttttagtgtgttaaattcctgggcatttttccaggcatcat

.
acatgtagctgactgatgatggcaatttattttgtccatgggtgtcaagtttctcttca

.
ggaggaaaagcacagaactggccaacaattgcttgactgttctttaccatactgtttagc

|451	|461	|471	|481	|491	|501
CAGGAAACCAGTCTCAGTGTCCA	CTCTCTAACCTTGGA	ACTGTGAGAACTCTGAGGACA			
Q E T S L S V Q L S N L G T V R T L R T					
|151			|161		

|511	|521	|531	|541	.	.
AAGCAGCGGATACAACCTCAAAAGACGTCTGTCTACATTGAATTGG	gtaagggtctcagg				
K Q R I Q P Q K T S V Y I E L G					
|171			|181		

.
ttttttaagtatttaataataattgctggattccttatcttatagttttgccaaaaatct

.
tggtcataatttgtatttgtggtaggcagctttgggaagtgaattttatgagccctatgg

.
tgagttataaaaaatgtaaaagacgcagttcccaccttgaagaatcttactttaaaaagg

.
gagcaaaaggaggccaggcatggtggctcacacctgtaatcccagcactttgggaggccaa

.
agtgggtggatcacctgaggtcgggagttcgagaccagcctagcca

Exon 8 | Start: 780 | End: 825 | Length: 45

.
agaaacgggggtctcactttgttggccaggctggtcttgaactcctaacctcaaataatc

.
cacccatctcggcctcctcaagtgtgggattacaggtgagagccactgtgcctggcgaa

.
gcccatgcctttaaccacttctctgtattacatactagcttaactagcattgtacctgcc

.
acagtagatgctcagtaaataatttctagttgaatatctgtttttcaacaagtacattttt

.
ttaacccttttaattaagaaaactttattgatttattttttggggggaaatttttagg

 |551 |561 |571 |581 |591 .
GATCTGATTCTTCTGAAGATACCGTTAATAAGGCAACTTATTGCAGgtgagtcaaagaga
S D S S E D T V N K A T Y C S
 |191

.
acctttgtctatgaagctgggtattttcctatttagttaatattaaggattgatgtttctc

.
tctttttaaaaatattttaactttatttttaggttcagggatgtatgtgcagtttgttat

.
ataggtaaacacacgacttgggatttggtgtatagattttttcatcatccgggtactaa

.
gcataccccacagttttttgtttgctttctttctgaatttctccctcttcccaccttct

.
ccctcaagtaggctgggtgtttctccagactagaatcatggtattgg

Exon 9 | Start: 826 | End: 902 | Length: 76

```
. . . . .
tatttttagtagagatggggtttcacatggtggccaggctggtcttgaactcatgacct

. . . . .
caagtggccacccgcctcagcctcccaaagtgctggaattacaggcttgagccaccgtg

. . . . .
cccagcaaccatttcatttcaactagaagtttctaaaggagagagcagctttcactaact

. . . . .
aaataagattggtcagctttctgtaatcgaaagagctaaatgtttgatcttggtcattt

. . . . .
gacagttctgcatacatgtaactagtgtttcttattaggactctgtcttttcctatagt

      |601      |611      |621      |631      |641      |651
TG TGGGAGATCAAGAATTGTTACAAATCACCCCTCAAGGAACCAGGGATGAAATCAGTTT
 V  G  D  Q  E  L  L  Q  I  T  P  Q  G  T  R  D  E  I  S  L
      |201                        |211

      |661
GGATTCTGCAAAAAAGGgtaatggcaaagtttgccaacttaacaggcactgaaaagagag
 D  S  A  K  K  A
      |221

. . . . .
tgggtagatacagtactgtaattagattattctgaagaccatttgggacctttacaacct

. . . . .
acaaaatctcttggcagagtttagagtatcattctctgtcaaatgtcgtgggtatgggtctga

. . . . .
tagatttaaattggtactagactaatgtacctataataagaccttctgtaactgattgttg

. . . . .
ccctttcgttttttttttgtttgtttgtttgttttttttgagatgggggtctcactctg

. . . . .
ttgccaggctggagtg
```

Exon 10 | Start: 903 | End: 4328 | Length: 3425

```
. . . . .
gttttctgatggccaatctgcttttaattcactcttagacgttagagaaataggtgtggt

. . . . .
ttctgcatagggaaaattctgaaattaaaaatttaatggatcctaagtggaaataatcta

. . . . .
ggtaaataggaattaaatgaaagagtatgagctacatcttcagtatacttggtagtttat

. . . . .
gagggttagtttctctaatatagccagttgggttgatttccacctccaaggtgtatgaagta

. . . . .
tgtatTTTTTaatgacaattcagtttttgagtaccttgttatTTTTgtatTTTTcagc

|671      |681      |691      |701      |711      |721
CTGCTTGTGAATTTTCTGAGACGGATGTAACAAATACTGAACATCATCAACCCAGTAATA
  A C E F S E T D V T N T E H H Q P S N N
                |231                      |241

|731      |741      |751      |761      |771      |781
ATGATTTGAACACCACTGAGAAGCGTGCAGCTGAGAGGCATCCAGAAAAGTATCAGGGTA
  D L N T T E K R A A E R H P E K Y Q G S
                |251                      |261

|791      |801      |811      |821      |831      |841
GTTCTGTTTCAAACCTGTCATGTGGAGCCATGTGGCACAAATACTCATGCCAGCTCATTAC
  S V S N L H V E P C G T N T H A S S L Q
                |271                      |281

|851      |861      |871      |881      |891      |901
AGCATGAGAACAGCAGTTTATTACTCACTAAAGACAGAATGAATGTAGAAAAGGCTGAAT
  H E N S S L L L T K D R M N V E K A E F
                |291                      |301

|911      |921      |931      |941      |951      |961
TCTGTAATAAAAAGCAAACAGCCTGGCTTAGCAAGGAGCCAACATAACAGATGGGCTGGAA
  C N K S K Q P G L A R S Q H N R W A G S
                |311                      |321

|971      |981      |991      |1001     |1011     |1021
```

GTAAGGAAACATGTAATGATAGGCGGACTCCCAGCACAGAAAAAAGGTAGATCTGAATG
 K E T C N D R R T P S T E K K V D L N A
 |331 |341

 |1031 |1041 |1051 |1061 |1071 |1081
 CTGATCCCCTGTGTGAGAGAAAAGAATGGAATAAGCAGAAACTGCCATGCTCAGAGAATC
 D P L C E R K E W N K Q K L P C S E N P
 |351 |361

 |1091 |1101 |1111 |1121 |1131 |1141
 CTAGAGATACTGAAGATGTTCTTGATAACACTAAATAGCAGCATTGAGAAAGTTAATG
 R D T E D V P W I T L N S S I Q K V N E
 |371 |381

 |1151 |1161 |1171 |1181 |1191 |1201
 AGTGGTTTTCCAGAAGTGATGAACTGTTAGGTTCTGATGACTCACATGATGGGGAGTCTG
 W F S R S D E L L G S D D S H D G E S E
 |391 |401

 |1211 |1221 |1231 |1241 |1251 |1261
 AATCAAATGCCAAAGTAGCTGATGTATTGGACGTTCTAAATGAGGTAGATGAATATTCTG
 S N A K V A D V L D V L N E V D E Y S G
 |411 |421

 |1271 |1281 |1291 |1301 |1311 |1321
 GTTCTTCAGAGAAAATAGACTTACTGGCCAGTGATCCTCATGAGGCTTTAATATGTA AAA
 S S E K I D L L A S D P H E A L I C K S
 |431 |441

 |1331 |1341 |1351 |1361 |1371 |1381
 GTGAAAGAGTTCACTCCAAATCAGTAGAGAGTAATATTGAAGACAAAATATTTGGGAAAA
 E R V H S K S V E S N I E D K I F G K T
 |451 |461

 |1391 |1401 |1411 |1421 |1431 |1441
 CCTATCGGAAGAAGGCAAGCCTCCCAACTTAAGCCATGTAAGTGA AAAATCTAATTATAG
 Y R K K A S L P N L S H V T E N L I I G
 |471 |481

 |1451 |1461 |1471 |1481 |1491 |1501
 GAGCATTTGTTACTGAGCCACAGATAATACAAGAGCGTCCCTCACAAAATAAATTAAAGC
 A F V T E P Q I I Q E R P L T N K L K R
 |491 |501

 |1511 |1521 |1531 |1541 |1551 |1561
 GTAAAAGGAGACCTACATCAGGCCTTCATCCTGAGGATTTTATCAAGAAAGCAGATTTGG

K R R P T S G L H P E D F I K K A D L A
 |511 |521
 |1571 |1581 |1591 |1601 |1611 |1621
 CAGTTCAAAAGACTCCTGAAATGATAAATCAGGGAACCTAACCAAACGGAGCAGAATGGTC
 V Q K T P E M I N Q G T N Q T E Q N G Q
 |531 |541
 |1631 |1641 |1651 |1661 |1671 |1681
 AAGTGATGAATATTACTAATAGTGGTCATGAGAATAAAACAAAAGGTGATTCTATTCCAGA
 V M N I T N S G H E N K T K G D S I Q N
 |551 |561
 |1691 |1701 |1711 |1721 |1731 |1741
 ATGAGAAAAATCCTAACCCAATAGAATCACTCGAAAAAGAATCTGCTTTCAAACGAAAG
 E K N P N P I E S L E K E S A F K T K A
 |571 |581
 |1751 |1761 |1771 |1781 |1791 |1801
 CTGAACCTATAAGCAGCAGTATAAGCAATATGGAACCTGAATTAAATATCCACAATTCAA
 E P I S S S I S N M E L E L N I H N S K
 |591 |601
 |1811 |1821 |1831 |1841 |1851 |1861
 AAGCACCTAAAAAGAATAGGCTGAGGAGGAAGTCTTCTACCAGGCATATTCATGCGCTTG
 A P K K N R L R R K S S T R H I H A L E
 |611 |621
 |1871 |1881 |1891 |1901 |1911 |1921
 AACTAGTAGTCAGTAGAAATCTAAGCCACCTAATTGTACTGAATTGCAAATTGATAGTT
 L V V S R N L S P P N C T E L Q I D S C
 |631 |641
 |1931 |1941 |1951 |1961 |1971 |1981
 GTTCTAGCAGTGAAGAGATAAAGAAAAAAGTACAACCAAATGCCAGTCAGGCACAGCA
 S S S E E I K K K K Y N Q M P V R H S R
 |651 |661
 |1991 |2001 |2011 |2021 |2031 |2041
 GAAACCTACAACCTCATGGAAGGTAAAGAACCTGCAACTGGAGCCAAGAAGAGTAACAAGC
 N L Q L M E G K E P A T G A K K S N K P
 |671 |681
 |2051 |2061 |2071 |2081 |2091 |2101
 CAAATGAACAGACAAGTAAAAGACATGACAGCGATACTTTCCAGAGCTGAAGTTAACAA
 N E Q T S K R H D S D T F P E L K L T N

			|691				|701
|2111	|2121	|2131	|2141	|2151			|2161
ATGCACCTGGTTCTTTTACTAAGTGTTCAAATACCAAGTGAACCTTAAAGAATTTGTCAATC							
A P G S F T K C S N T S E L K E F V N P							
			|711				|721
|2171	|2181	|2191	|2201	|2211			|2221
CTAGCCTTCCAAGAGAAGAAAAAGAAGAGAACTAGAAACAGTTAAAGTGTCTAATAATG							
S L P R E E K E E K L E T V K V S N N A							
			|731				|741
|2231	|2241	|2251	|2261	|2271			|2281
CTGAAGACCCCAAAGATCTCATGTTAAGTGGAGAAAGGGTTTGCAACTGAAAGATCTG							
E D P K D L M L S G E R V L Q T E R S V							
			|751				|761
|2291	|2301	|2311	|2321	|2331			|2341
TAGAGAGTAGCAGTATTTTCATTGGTACCTGGTACTGATTATGGCACTCAGGAAAGTATCT							
E S S S I S L V P G T D Y G T Q E S I S							
			|771				|781
|2351	|2361	|2371	|2381	|2391			|2401
CGTTACTGGAAGTTAGCACTCTAGGAAGGCAAAAACAGAACCAAATAAATGTGTGAGTC							
L L E V S T L G K A K T E P N K C V S Q							
			|791				|801
|2411	|2421	|2431	|2441	|2451			|2461
AGTGTGCAGCATTTGAAAACCCCAAGGCACTAATTCATGGTTGTTCCAAAGATAATAGAA							
C A A F E N P K G L I H G C S K D N R N							
			|811				|821
|2471	|2481	|2491	|2501	|2511			|2521
ATGACACAGAAGGCTTTAAGTATCCATTGGGACATGAAGTTAACCACAGTCGGGAAACAA							
D T E G F K Y P L G H E V N H S R E T S							
			|831				|841
|2531	|2541	|2551	|2561	|2571			|2581
GCATAGAAATGGAAGAAAGTGAACCTTGATGCTCAGTATTTGCAGAATACATTCAAGGTTT							
I E M E E S E L D A Q Y L Q N T F K V S							
			|851				|861
|2591	|2601	|2611	|2621	|2631			|2641
CAAAGCGCCAGTCATTTGCTCCGTTTTCAAATCCAGGAAATGCAGAAGAGGAATGTGCAA							
K R Q S F A P F S N P G N A E E E C A T							
			|871				|881

|2651	|2661	|2671	|2681	|2691	|2701
CATTCTCTGCCCCTCTGGGTCCTTAAAGAAACAAAGTCCAAAAGTCACTTTTGAATGTG					
F	S	A	H	S	G
			S	L	K
			K	Q	S
			P	K	V
			T	F	E
			C	E	
		|891			|901
|2711	|2721	|2731	|2741	|2751	|2761
AACAAAAGGAAGAAAATCAAGGAAAGAATGAGTCTAATATCAAGCCTGTACAGACAGTTA					
Q	K	E	E	N	Q
		G	K	N	E
		S	N	I	K
		P	V	Q	T
		V	N		
		|911			|921
|2771	|2781	|2791	|2801	|2811	|2821
ATATCACTGCAGGCTTTCCTGTGGTTGGTCAGAAAGATAAGCCAGTTGATAATGCCAAAT					
I	T	A	G	F	P
		V	V	G	Q
		K	D	K	P
		V	D	N	A
			K	C	
		|931			|941
|2831	|2841	|2851	|2861	|2871	|2881
GTAGTATCAAAGGAGGCTCTAGGTTTTGTCTATCATCTCAGTTCAGAGGCAACGAAACTG					
S	I	K	G	G	S
		R	F	C	L
		S	S	Q	F
			R	G	N
			E	T	G
		|951			|961
|2891	|2901	|2911	|2921	|2931	|2941
GACTCATTACTCCAAATAAACATGGACTTTTACAAAACCCATATCGTATACCACCACTTT					
L	I	T	P	N	K
		H	G	L	L
		Q	N	P	Y
		R	I	P	P
			L	F	
		|971			|981
|2951	|2961	|2971	|2981	|2991	|3001
TTCCCATCAAGTCATTGTGTTAAACTAAATGTAAGAAAAATCTGCTAGAGGAAAACCTTG					
P	I	K	S	F	V
		K	T	K	C
		K	K	N	L
		L	L	E	E
		N	F	E	
		|991			|1001
|3011	|3021	|3031	|3041	|3051	|3061
AGGAACATTCAATGTCACCTGAAAGAGAAAATGGGAAATGAGAACATTCCAAGTACAGTGA					
E	H	S	M	S	P
		E	R	E	M
		G	N	E	N
		I	P	S	T
		V	S		
		|1011			|1021
|3071	|3081	|3091	|3101	|3111	|3121
GCACAATTAGCCGTAATAACATTAGAGAAAATGTTTTTAAAGAAGCCAGCTCAAGCAATA					
T	I	S	R	N	N
		I	R	E	N
		V	F	K	E
		A	S	S	S
		N	I		
		|1031			|1041
|3131	|3141	|3151	|3161	|3171	|3181
TTAATGAAGTAGGTTCCAGTACTAATGAAGTGGGCTCCAGTATTAATGAAATAGGTTCCA					
N	E	V	G	S	S
		T	N	E	V
		G	S	S	I
		N	E	I	G
		S	S		
		|1051			|1061

|3191	|3201	|3211	|3221	|3231	|3241
GTGATGAAAACATTCAAGCAGAACTAGGTAGAAACAGAGGGCCAAAATTGAATGCTATGC					
D	E	N	I	Q	A
	E	L	G	R	N
			R	G	P
				K	L
				N	A
				M	L
		|1071			|1081
|3251	|3261	|3271	|3281	|3291	|3301
TTAGATTAGGGGTTTTGCAACCTGAGGTCTATAAACAAAGTCTTCCTGGAAGTAATTGTA					
R	L	G	V	L	Q
	P	E	V	Y	K
			Q	S	L
				P	G
				S	N
				C	K
		|1091			|1101
|3311	|3321	|3331	|3341	|3351	|3361
AGCATCCTGAAATAAAAAAGCAAGAATATGAAGAAGTAGTTCAGACTGTTAATACAGATT					
H	P	E	I	K	K
	Q	E	Y	E	E
		V	V	Q	T
			V	N	T
				D	F
		|1111			|1121
|3371	|3381	|3391	|3401	|3411	|3421
TCTCTCCATATCTGATTTCAGATAACTTAGAACAGCCTATGGGAAGTAGTCATGCATCTC					
S	P	Y	L	I	S
	D	N	L	E	Q
			P	M	G
			S	S	H
				A	S
					Q
		|1131			|1141
|3431	|3441	|3451	|3461	|3471	|3481
AGGTTTGTCTGAGACACCTGATGACCTGTTAGATGATGGTGAATAAAGGAAGATACTA					
V	C	S	E	T	P
	D	D	L	L	D
			D	G	E
			I	K	E
				D	T
					S
		|1151			|1161
|3491	|3501	|3511	|3521	|3531	|3541
GTTTTGCTGAAAATGACATTAAGGAAAGTTCTGCTGTTTTTAGCAAAAGCGTCCAGAAAG					
F	A	E	N	D	I
	K	E	S	S	A
		V	F	S	K
			S	V	Q
				K	G
		|1171			|1181
|3551	|3561	|3571	|3581	|3591	|3601
GAGAGCTTAGCAGGAGTCCTAGCCCTTTCACCCATACACATTTGGCTCAGGGTTACCGAA					
E	L	S	R	S	P
	S	P	F	T	H
			T	H	L
				A	Q
				G	Y
				R	R
		|1191			|1201
|3611	|3621	|3631	|3641	|3651	|3661
GAGGGGCCAAGAAATTAGAGTCCTCAGAAGAGAACTTATCTAGTGAGGATGAAGAGCTTC					
G	A	K	K	L	E
	S	S	E	E	N
			L	S	S
				E	D
				E	E
				L	P
		|1211			|1221
|3671	|3681	|3691	|3701	|3711	|3721
CCTGCTTCCAACACTTGTTATTTGGTAAAGTAAACAATATACCTTCTCAGTCTACTAGGC					
C	F	Q	H	L	L
	F	G	K	V	N
		N	I	P	S
			Q	S	T
				R	H
		|1231			|1241
|3731	|3741	|3751	|3761	|3771	|3781

ATAGCACCGTTGCTACCGAGTGTCTGTCTAAGAACACAGAGGAGAATTTATTATCATTGA
 S T V A T E C L S K N T E E N L L S L K
 |1251 |1261

|3791 |3801 |3811 |3821 |3831 |3841
 AGAATAGCTTAAATGACTGCAGTAACCAGGTAATATTGGCAAAGGCATCTCAGGAACATC
 N S L N D C S N Q V I L A K A S Q E H H
 |1271 |1281

|3851 |3861 |3871 |3881 |3891 |3901
 ACCTTAGTGAGGAAACAAAATGTTCTGCTAGCTTGTTTTCTTCACAGTGCAGTGAATTGG
 L S E E T K C S A S L F S S Q C S E L E
 |1291 |1301

|3911 |3921 |3931 |3941 |3951 |3961
 AAGACTTGACTGCAAATACAAACACCCAGGATCCTTTCTTGATTGGTTCTTCCAAACAAA
 D L T A N T N T Q D P F L I G S S K Q M
 |1311 |1321

|3971 |3981 |3991 |4001 |4011 |4021
 TGAGGCATCAGTCTGAAAGCCAGGGAGTTGGTCTGAGTGACAAGGAATTGGTTTCAGATG
 R H Q S E S Q G V G L S D K E L V S D D
 |1331 |1341

|4031 |4041 |4051 |4061 |4071 |4081
 ATGAAGAAAGAGGAACGGGCTTGGAAGAAAATAATCAAGAAGAGCAAAGCATGGATTCAA
 E E R G T G L E E N N Q E E Q S M D S N
 |1351 |1361

|4091
 ACTTAGgtattggaaccagggtttttgtgtttgccccagtctatttatagaagtgagctaa
 L G

.
 atgtttatgcttttggggagcacattttacaaattccaagtatatagttaaaggaactgct

.
 tcttaaacttgaaacatgttcctcctaagggtgcttttcatagaaaaagtccttcacaca

.
 gctaggacgtcatctttgactgaatgagctttaacatcctaattactgggtggacttactt

.
 ctggtttcattttataaaagcaaataccagggtgtcccaaagcaaggaatttaatacattttg

.
tgtgac

Exon 11 | Start: 4329 | End: 4417 | Length: 88

.
aaggaaactgcttcttaaacttgaaacatgttcctcctaaggcttttcatagaaaaaag
.
tccttcacacagctaggacgtcatctttgactgaatgagctttaacatcctaattactgg
.
tggacttacttctggtttcattttataaaagcaaaccaggtgtcccaaagcaaggaatt
.
taatcattttgtgtgacatgaaagtaaaccagtcctgccaatgagaagaaaaagacaca
.
gcaagttgcagcgtttatagtctgcttttacatctgaacctctgtttttgttatttaagg
|4101 |4111 |4121 |4131 |4141 |4151
GTGAAGCAGCATCTGGGTGTGAGAGTGAAACAAGCGTCTCTGAAGACTGCTCAGGGCTAT
E A A S G C E S E T S V S E D C S G L S
|1371 |1381
|4161 |4171 |4181
CCTCTCAGAGTGACATTTTAACCACTCAGgtaaaaagcgtgtgtgtgtgtgcacatgcgt
S Q S D I L T T Q
|1391
.
gtgtgtgggtgtcctttgcattcagtagtatgtatccacattcttaggtttgctgacatc
.
atctctttgaattaatggcacaattgtttgtgggttcattgtctccttaaattagactgta
.
agcaccttgatggaactcatactaccttttatttcacacacacgcacacgcgcacacaca
.
gcctacacatacactgccttagctcattgtagcatactaaatactgatttttaatgaataag

.
ctaaaccttcgaaacccatttgctaattcc

Exon 12 | Start: 4418 | End: 4589 | Length: 171

.
attttttctactccctagcttttaaagaaaataaccaacttcaaaggacatcacataaac
.
atcaagtctatttgggggaatttgaggatttttccctcactaacatcatttggaataa
.
tttcatgggcattaattgcatgaatgtggttagattaaaagggtgttcagctagaacttgt
.
agttccatactaggtgatttcaattcctgtgctaaaattaatttgatgatataattttca
.
tttaatggaaagcttctcaaagtatttcattttcttggtgccatttatcgtttttgaagc

 |4191 |4201 |4211 |4221 |4231 |4241
CAGAGGGATACCATGCAACATAACCTGATAAAGCTCCAGCAGGAAATGGCTGAAGTAGAA
Q R D T M Q H N L I K L Q Q E M A E L E
 |1401 |1411

 |4251 |4261 |4271 |4281 |4291 |4301
GCTGTGTTAGAACAGCATGGGAGCCAGCCTTCTAACAGCTACCCCTTCCATCATAAGTGAC
A V L E Q H G S Q P S N S Y P S I I S D
 |1421 |1431

 |4311 |4321 |4331 |4341 |4351 .
TCTTCTGCCCTTGAGGACCTGCGAAATCCAGAACAAAGCACATCAGAAAAAGgtgtgtat
S S A L E D L R N P E Q S T S E K A
 |1441 |1451

.
tgttggccaaacactgatatacttaagcaaaattctttccttcccctttatctccttctga

.
agagtaaggacctagctccaacattttatgatccttgctcagcacatgggtaattatgga

.

gccttggttcttgtccctgctcacaaactaatataaccagtcagagggacccaaggcagtca

 ttcattgtgtcatctgagtacctacaacaagtagatgctatggggagcccatggaagata

 catggtataacaacatagctcttgctctattggaagctaagtggaatgggaga

Exon 13 | Start: 4590 | End: 4716 | Length: 126

.
 cagggccaaaggaatatagattttttttttcagccttgtctcagctgggtgtctttattta

 ctctgtcttaaagtgttccttttattatcattatttttttaattcattgaattccattt

 ggtgctagcatctgtctgttgcatgcttgtgtttataaaattctgcctgatataacttgt

 ttaaaaaccaatttgtgtatcatagattgatgcttttgaaaaaatcagtattctaacct

 gaattatcactatcagaacaaagcagtaaagtagatttgttttctcattccatttaaagc

|4361	|4371	|4381	|4391	|4401	|4411
CAGTATTA	ACTTCACAG	AAAAAGT	AGTGAAT	ACCCTATA	AAGCCAGA
V	L	T	S	Q	K
		S	S	E	Y
		P	I	S	Q
		N	P	E	G
		L	S		
		|1461			|1471

|4421	|4431	|4441	|4451	|4461	|4471
CTGCTG	ACAAGTTT	GAGGTGT	CTGCAG	ATAGTT	CTACCAG
A	D	K	F	E	V
		S	A	D	S
		S	S	T	S
		K	N	K	E
		P	G	V	
		|1481			|1491

|4481	.	.	.	.	.	.	.	.	.
TGGA	AAAG	gtaaga	aatca	atgtaa	agatg	ctgtg	gtatct	gacatc	ttttatt
E	R								

.
 gaactctgattgttaatttttttaccatactttctccagttttttgcatacaggcattt

.
 atacacttttattgctctaggatacttcttttgtttaatcctatataggttttttgaacc

 tataacataagctacaacatgagaaatgtgcggttagatagatatgtcccttctgaaggt

 cagaaaaaatataatggaggtaaaacctgaacaagcttggaactgatggtagacttct
 . .
 tcaaggc

Exon 14 | Start: 4717 | End: 4907 | Length: 190

.
 gcctcccgagtagctgagattacaggcgccagccaccacaccagctactgacctgcttt

 taaacagctgggagatatggtgcctcagaccaaccaaccccatgttatatgtcaaccct

 gacatattggcaggcaacatgaatccagacttctaggctgtcttgcgggctcttttttgc

 cagtcatttctgatctctctgacatgagctgtttcatttatgctttggctgccagcaag

 tatgatttgtcctttcacaattggtggcgatggttttctccttccatttatctttctagg

|4491	|4501	|4511	|4521	|4531	|4541
GTCATCCCTTCTAAATGCCCATCATTAGATGATAGGTGGTACATGCACAGTTGCTCTGG					
S S P S K C P S L D D R W Y M H S C S G					
	|1501			|1511	

|4551	|4561	|4571	|4581	|4591	|4601
GAGTCTTCAGAATAGAACTACCCATCTCAAGAGGAGCTCATTAAGGTTGTTGATGTGGA					
S L Q N R N Y P S Q E E L I K V V D V E					
	|1521			|1531	

|4611	|4621	|4631	|4641	|4651	|4661
GGAGCAACAGCTGGAAGAGTCTGGGCCACACGATTTGACGGAAACATCTTACTTGCCAAG					

E Q Q L E E S G P H D L T E T S Y L P R
|1541 |1551

|4671
GCAAGATCTAGgtaatatattcatctgctgtattggaacaaacactttgattttactctga
Q D L E

.
atcctacataaagatattctggtaaccaacttttagatgtactagtctatcatggacac
.
ttttgttataacttaattaagccacttttagaaaaatagctcaagtgttaatcaaggttta
.
cttgaaaattattgaaactgttaatccatctatatattttaattaatggtttaactaatgat
.
tttgaggatgaggagctcttggtgtactctaaatgtattatttcaggccaggcatagtgg
.
ctcacgcctgt

Exon 15 | Start: 4908 | End: 5218 | Length: 310

.
ctaaaattatactattcctatgactaaacctttgcatatatcttttatctccctaggata
.
tatttctaaaactagcattgttgactgaaagtgtaaatacgtgttaagggtgttgctaca
.
taatgccatatttccttttttaggaaactaagctactttggatttccaccaacactgtatt
.
catgtacccatttttctcttaacctaactttattgggtctttttaattcttaacagagacc
.
agaactttgttaattcaacattcatcggtgtgttaaattaaacttctcccattcctttcaga

|4681 |4691 |4701 |4711 |4721 |4731
AGGGAACCCCTTACCTGGAATCTGGAATCAGCCTCTTCTCTGATGACCCTGAATCTGATC

G T P Y L E S G I S L F S D D P E S D P
 |1561 |1571

 |4741 |4751 |4761 |4771 |4781 |4791
 CTTCTGAAGACAGAGCCCCAGAGTCAGCTCGTGTGGCAACATACCATCTTCAACCTCTG
 S E D R A P E S A R V G N I P S S T S A
 |1581 |1591

 |4801 |4811 |4821 |4831 |4841 |4851
 CATTGAAAGTTCCCCAATTGAAAGTTGCAGAATCTGCCCAGAGTCCAGCTGCTGCTCATA
 L K V P Q L K V A E S A Q S P A A A H T
 |1601 |1611

 |4861 |4871 |4881 |4891 |4901 |4911
 CTACTGATACTGCTGGGTATAATGCAATGGAAGAAAGTGTGAGCAGGGAGAAGCCAGAAT
 T D T A G Y N A M E E S V S R E K P E L
 |1621 |1631

 |4921 |4931 |4941 |4951 |4961 |4971
 TGACAGCTTCAACAGAAAGGGTCAACAAAAGAATGTCCATGGTGGTGTCTGGCCTGACCC
 T A S T E R V N K R M S M V V S G L T P
 |1641 |1651

 |4981
 CAGAAGAATTTgtgagtgatatccatatgtatctccctaagtactaagacttaacaacatt
 E E F
 |1661

 ctggaaagaggttttatgtaggtattgtcaattaataacctagaggaagaaatctagaaa

 caatcacagttctgtgtaatttaatttcgattactaatttctgaaaatttagatctagat

 aaagctatagtggtgattattttatgtatatttacttgagaaaataattattaaatatta

 gtggaaaagctatactttgggtatgatataggactttcgaattggaattttcctttctat

 . . .
 ctgtaaaagca

Exon 16 | Start: 5219 | End: 5306 | Length: 87

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. . . . .
agacttcagggtgtccttagaattttttaaatgtaccctttctgagaaaaacagagacttaa
. . . . .
agctaggataactgggtattctatTTTTTTTTTTTTTTTTTTTTTtacctccagcctgggtg
. . . . .
acagagcaagactctgtctaaaaaaaaaaaaaaaaaattcactttaaatagttccagga
. . . . .
cacgtgtagaacgtgcaggattgctacataggtaaacatatgccatgggtggaataactag
. . . . .
tattctgagctgtgtgctagaggtaactcatgataatggaatatttgatttaatttcaga
      |4991      |5001      |5011      |5021      |5031      |5041
ATGCTCGTGTACAAGTTTGCCAGAAAACACCACATCACTTTAACTAATCTAATTACTGAA
M L V Y K F A R K H H I T L T N L I T E
                        |1671                        |1681

      |5051      |5061      |5071      . . . . .
GAGACTACTCATGTTGTTATGAAAACAGgtataccaagaacctttacagaataccttgca
E T T H V V M K T D
                        |1691

. . . . .
tctgctgcataaaaccacatgaggcgaggcacggtggcgcatgcctgtaatcgcagcact
. . . . .
ttgggaggccgaggcgggcagatcacgagattaggagatcgagaccatcctggccagcat
. . . . .
ggtgaaaccccgctcttactaaaaataaaaaaattagctgggtgtggtcgcggtgcgcct
. . . . .
gtagtcccagctactcgtgaggctgaggcaggagaatcacttgaaccggggagatggagg
. . . . .
ttgcagtgagccgagatcatgccactgc

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Exon 17 | Start: 5307 | End: 5384 | Length: 77

.
 ataatggagatctatagctagccttggcgtctagaagatgggtgttgagaagagggagtg

 gacagatatttcctctggctttaacttcatatcagcctcccctagacttccaaatatcca

 tacctgctggttataattagtggtgttttcagcctctgattctgtcaccaggggttttag

 aatcataaatccagattgatcttgggagtgtaaaaaactgaggctcttttagcttcttagg

 acagcacttcctgattttgttttcaacttctaatacctttgagtgtttttcattctgcaga
 |5081 |5091 |5101 |5111 |5121 |5131
 ATGCTGAGTTTGTGTGTAACGGACACTGAAATATTTTCTAGGAATTGCGGGAGGAAAAT
 A E F V C E R T L K Y F L G I A G G K W
 |1701 |1711
 |5141 |5151
 GGGTAGTTAGCTATTTCTgtaagtataataactatttctcccctcctccctttaacacctc
 V V S Y F W

 agaattgcatttttacacctaacgtttaacacctaagggttttgctgatgctgagctga

 gttaccaaagggtctttaattgtaataactacttttatctttaatatcactttgtt

 cagataagctgggtgatgctgggaaaatgggtctcttttataactaataggacctaactctg

 ctccctagcaatgtagcatatgagctagggtatttatttaatatgtaggcaggaatccatgt

 gcagcaggcaaacttata

Exon 18 | Start: 5385 | End: 5425 | Length: 40

.
 taactaataggacctaatactgctcctagcaatgtagcatatgagctagggatttattta

 atagtcggcagggaatccatgtgcagcaggcaaacttataatgtttaaattaacatcaac

 tctgtctccagaaggaaactgctgtctacaagccttattaaagggtgtggcttagagg

 aaggacctctcctctgtcattcttctgtgctctttgtgaatcgctgacctctctatct

 ccgtgaaaagagcacgttcttctgtgtatgtaacctgtcttttctatgatctcttagg

 |5161 |5171 |5181 |5191 . . .
 GGGTGACCCAGTCTATTAAAGAAAGAAAAATGCTGAATGAGgtaagtacttgatgttaca
 V T Q S I K E R K M L N E
 |1721 |1731

 aactaaccagagatatcattcagtcatatagttaaaaatgtatttgcttccttccatca

 atgcaccactttccttaacaatgcacaaatcttccatgataatgaggatcatcaagaatt

 atgcaggcctgcactgtgggtcatacctataatcccagcgctttgggaggctgaggcgct

 tggatcacctgatgtcgggagttcaagaccagcctgaccaacatggagaaaccccgtttc

 tactaaaaatacaaaattagccgggcttggtggcacttgcc

Exon 19 | Start: 5426 | End: 5509 | Length: 83

.
 cattcaaaagattctcctgcctcagcctcccaagtagctgggattacaggtgcctgccac

.
 cagcccaactaatTTTTgtatTTTtagtagagatgaggTTTcaccatgttggtcagac

 tgggtgcgaactcctgacctcaagtgatctgcctgcctcagtcctccaaagtgctaggat

 tacaggggtgagccactgcgctggcctgaatgccttaaatatgacgtgtctgctccact

 tccattgaaggaagcttctcttctcttatcctgatgggtgtgtttggtttctttcagc
 |5201 |5211 |5221 |5231 |5241 |5251
 CATGATTTTGAAGTCAGAGGAGATGTGGTCAATGGAAGAAACCACCAAGGTCCAAAGCGA
 H D F E V R G D V V N G R N H Q G P K R
 |1741 |1751
 |5261 |5271
 GCAAGAGAATCCCAGGACAGAAAGgtaaagctccctccctcaagttgacaaaaatctcac
 A R E S Q D R K

 cccaccactctgtattccactcccctttgcagagatgggcccgttcattttgtaagactt

 attacatacacacagtgcctagatactttcacacaggttcttttttactcttccatcc

 caaccacataaataagtattgtctctactttatgaatgataaaactaagagatttagaga

 ggctgtgtaatttggattcccgtctcgggttcagatcttagctgataagtggaagagctg

 ggactttaagcagatgagaatcta

Exon 20 | Start: 5510 | End: 5564 | Length: 54

.
 ttggcctgattggtgacaaaagtgagatgctcagtccttgaatgacaaagaatgcctgta

.
 gagtgcaggtcaactacatatgcacttcaagaagatcttctgaaatccagtagtgttctg

 gacattggactgcttgtccctgggaagtagcagcagaaatcatcaggtggtgaacagaag

 aaaaagaaaagctcttcctttttgaaagtctgttttttgaataaaagccaatattctttt

 ataactagattttccttctctccattcccctgtccctctctcttctcttcttccaga
 |5281 |5291 |5301 |5311 |5321 |5331 .
 ATCTTCAGGGGGCTAGAAATCTGTGCTATGGGCCCTTCACCAACATGCCACAGgtaag
 I F R G L E I C C Y G P F T N M P T D
 |1761 |1771

 agcctgggagaaccccagagttccagcaccagcctttgtcttacatagtgaggattata

 agcaagatcccacgatgggggttcctcagattgctgaaatgttctagaggctattctatt

 tctctaccactctccaaacaaaacagcacctaaatgttatcctatggcaaaaaaaacta

 taccttgctcccccttctcaagagcatgaaggtggtaatatgtaggattcagtatgttat

 gtgttcagatggcggtgagctgctgttagtgccaacatgtagtgagaaaatatc

Exon 21 | Start: 5565 | End: 5638 | Length: 73

.
 ttaatggaaattagatctttgattttttttctttcaagcattttatttgagagactatc

 aaaccttataccaagtggccttatggagactgataaccagagtacatggcatatcagtgg

caaattgacttaaaatccatacccctactattttaagaccattgtcctttggagcagaga

 gagagactctcccattgagaggtcttgctataagccttcatccggagagtgtagggtaga

 gggcctgggttaagtatgcagattactgcagtgattttacatctaaatgtccattttaga

 |5341 |5351 |5361 |5371 |5381 |5391
 ATCAACTGGAATGGATGGTACAGCTGTGTGGTGTCTTCTGTGGTGAAGGAGCTTTCATCAT
 Q L E W M V Q L C G A S V V K E L S S F
 |1781 |1791

 |5401
 TCACCCCTTGGCACAgtaagtattgggtgccctgtcagagagggaggacacaatattctct
 T L G T
 |1801

 cctgtgagcaagactggcacctgtcagtcctatggatgccctactgtagcctcagaag

 tcttctctgccacatacctgtgccaaaagactccatctgtaagggatgggtaaggattt

 gagaactgcacataattaaatatactgagggaagactttttccctctaactctttttccca

 tatgtccctccccctcctctctgtgactgcccagcactactgtgtttcaacaaatcatca

 agaaatgatgggct

Exon 22 | Start: 5639 | End: 5699 | Length: 60

.
 caggagtttgagaccagcctgggcaacatggcaaaaccctgtctctacaaaaatacaaa

 aaaattagccaggggtggtggtacgtgtctgttagttccagctacttaggaggctgagatg

gaaggattgcttgagcccaggaggcagaggtggcagtgagctgagatcacaccactgcac

.
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.
gacagttccagtagtcctacttttgacactttgaaatgctctttccttcctggggatccagg

 |5411 |5421 |5431 |5441 |5451 |5461
GGTGTCCACCCAATTGTGGTTGTGCAGCCAGATGCCTGGACAGAGGACAATGGCTTCCAT
G V H P I V V V Q P D A W T E D N G F H
 |1811 |1821

.
Ggtaagggtgcctgcatgtacctgtgctatatggggtccttttgcagtggtttggtttatc
A

.
actcattacctggtgcttgagtagcacagttcttggcacattttaaatatttgttgaatg

.
aatggctaaaatgtctttttgatgtttttattgttatttgttttatattgtaaaagtaat

.
acatgaactgtttccatgggggtgggagtaagatatgaatgttcatcacaaaaacataaat

.
caaggccgggcatggtggctcatgcctataattccagcactttgggaggtcaagatggag

.
g

Exon 23 | Start: 5700 | End: 7207 | Length: 1507

.
aaaaatacaaaaattagctgggtgtgatggcatgtgcctgtaattccagctactcaggag

.
gcagagacaggagaattgcttgaacccaggaggcggaggttgaatgagccgagattgcgc

.

catcacactctagcctcggcgacagagcaagactccgtctcaaaaaaaaaaaaaaaaaaat

.

tagcttctacctcattaatcctaagaactcatacaaccaggaccctggagtcgattgatt

.

agagcctagtagccaggagaatgaattgacactaatctctgcttggttctctgtctccagc

 |5471 |5481 |5491 |5501 |5511 |5521

CAATTGGGCAGATGTGTGAGGCACCTGTGGTGACCCGAGAGTGGGTGTTGGACAGTGTAG

 I G Q M C E A P V V T R E W V L D S V A

 |1831 |1841

 |5531 |5541 |5551 |5561 |5571 |5581

CACTCTACCAGTGCCAGGAGCTGGACACCTACCTGATACCCAGATCCCCACAGCCACT

 L Y Q C Q E L D T Y L I P Q I P H S H Y

 |1851 |1861

 |5591 |+11 |+21 |+31 |+41 |+51

ACTGACTGCAGCCAGCCACAGGTACAGAGCCACAGGACCCCAAGAATGAGCTTACAAAGT

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 |+61 |+71 |+81 |+91 |+101 |+111

GGCCTTTCCAGGCCCTGGGAGCTCCTCTCACTCTTCAGTCCTTCTACTGTCTGGCTACT

 |+121 |+131 |+141 |+151 |+161 |+171

AAATATTTTATGTACATCAGCCTGAAAAGGACTTCTGGCTATGCAAGGGTCCCTTAAAGA

 |+181 |+191 |+201 |+211 |+221 |+231

TTTTCTGCTTGAAGTCTCCCTTGGAATCTGCCATGAGCACAAAATTATGGTAATTTTTC

 |+241 |+251 |+261 |+271 |+281 |+291

ACCTGAGAAGATTTTAAAACCATTTAAACGCCACCAATTGAGCAAGATGCTGATTCATTA

 |+301 |+311 |+321 |+331 |+341 |+351

TTTATCAGCCCTATTCTTTCTATTCAAGGCTGTTGTTGGCTTAGGGCTGGAAGCACAGAGT

 |+361 |+371 |+381 |+391 |+401 |+411

GGCTTGGCCTCAAGAGAATAGCTGGTTTCCCTAAGTTTACTTCTCTAAAACCCTGTGTTC

 |+421 |+431 |+441 |+451 |+461 |+471

ACAAAGGCAGAGAGTCAGACCCTTCAATGGAAGGAGAGTGCTTGGGATCGATTATGTGAC

 |+481 |+491 |+501 |+511 |+521 |+531

TTAAAGTCAGAATAGTCCTTGGGCAGTTCTCAAATGTTGGAGTGGAACATTGGGGAGGAA

|+541	|+551	|+561	|+571	|+581	|+591
ATTCTGAGGCAGGTATTAGAAATGAAAAGGAACTTGAAACCTGGGCATGGTGGCTCACG					
|+601	|+611	|+621	|+631	|+641	|+651
CCTGTAATCCCAGCACTTTGGGAGGCCAAGGTGGGCAGATCACTGGAGGTCAGGAGTTCG					
|+661	|+671	|+681	|+691	|+701	|+711
AAACCAGCCTGGCCAACATGGTGAACCCCATCTCTACTAAAAATACAGAAATTAGCCGG					
|+721	|+731	|+741	|+751	|+761	|+771
TCATGGTGGTGGACACCTGTAATCCCAGCTACTCAGGTGGCTAAGGCAGGAGAATCACTT					
|+781	|+791	|+801	|+811	|+821	|+831
CAGCCCGGAGGTGGAGGTTGCAGTGAGCCAAGATCATACCACGGCACTCCAGCCTGGGT					
|+841	|+851	|+861	|+871	|+881	|+891
GACAGTGAGACTGTGGCTCAAAAAAAAAAAAAAAAAAGGAAAATGAACTAGAAGAGAT					
+901	+911	+921	+931	+941	+951
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+961	+971	+981	+991	+1001	+1011
GATTTTCAAGAACCGGTTTCCAAAGACAGTCTTCTAATTCCTCATTAGTAATAAGTAAAA					
|+1021	|+1031	|+1041	|+1051	|+1061	|+1071
TGTTTATTGTTGTAGCTCTGGTATATAATCCATTCTCTTAAAAATATAAGACCTCTGGCA					
|+1081	|+1091	|+1101	|+1111	|+1121	|+1131
TGAATATTTTCATATCTATAAAATGACAGATCCCACCAGGAAGGAAGCTGTTGCTTTCTTT					
|+1141	|+1151	|+1161	|+1171	|+1181	|+1191
GAGGTGATTTTTTTCCTTTGCTCCCTGTTGCTGAAACCATACAGCTTCATAAATAATTTT					
|+1201	|+1211	|+1221	|+1231	|+1241	|+1251
GCTTGCTGAAGGAAGAAAAAGTGTTTTTCATAAACCCATTATCCAGGACTGTTTATAGCT					
|+1261	|+1271	|+1281	|+1291	|+1301	|+1311
GTTGGAAGGACTAGGTCTTCCCTAGCCCCCAGTGTCGAAGGGCAGTGAAGACTTGATT					
|+1321	|+1331	|+1341	|+1351	|+1361	|+1371
GTACAAAATACGTTTTGTAAATGTTGTGCTGTAACTGCAAATAAACTTGGTAGCAAA					
|+1381	.	.	.	.	.
CACTTCCAccatgaatgactgttcttgagacttaggccagccgactttctcagagccttt					

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