

Gene: BRCA1 - Sequence: NG_005905.2
 Transcript: NM_007294.3 - Protein: NP_009225.1
 Date : February 25, 2015

1st line: Base numbering. Full stops for intronic +/- 5, 10, 15...
 2nd line: Base sequence. lower case Introns, upper case Exons
 3rd line: Amino acid sequence. Printed on FIRST base of codon
 4th line: Amino acid numbering. Numbered on 1st and increments of 10

Exon 1 | Start: 92501 | End: 92713 | Length: 212

```

. . . . .
tacttatatattaccgaaactggagacctccattagggcggaagagtgggggattgggac

. . . . .
ctcttcttacgactgctttggacaataggtagcgttctgaccttcgtacagcaattact

. . . . .
gtgatgcaataagccgcaactggaagtagaggctagaggcaggcactttatggcaaa

. . . . .
ctcaggtagaattcttctcttccgtctctttccttttacgtcatccgggggcagactgg

. . . . .
gtggccaatccagagccccgagagacgcttggtctctttctgtccctcccatcctctgatt

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

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

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

|-49     |-39     |-29     .      .      .      .
TCAGGAGCCTTACCCTCTGCTCTGGGTAAAGgtagtagagtcccgggaaaggacagg

. . . . .
gggccaagtgatgctctgggggtactggcgtgggagagtggatttccgaagctgacagat

. . . . .
gggtattctttgacgggggtaggggcggaacctgagaggcgtaaggcgttgtaacctt

```

.
 ggggagggggcagttttaggtcgcgagggaagcgctgaggatcaggaagggggcactg

 agtgtccgtgggggaatcctcgtgataggaactggaatatgccttgagggggacactatg

 tctttaaaaacgtcggctgggtcatgaggtcagg

Exon 2 | Start: 93869 | End: 93967 | Length: 98

.
 aggctaccaccacctacccggtcagtcactcctctgtagctttctctttcttgagaaag

 gaaaagaccaaggggttggcagcaatatgtgaaaaattcagaatttatgttgtctaata

 tacaaaaagcaacttctagaatctttaaaaataaaggacgtgtgcattagttctttgggtt

 tgtattattctaaaccttccaaatcttaaatcttatttttaaaatgataaaatgaa

.
 gttgtcattttataaaccttttaaaaagatatatatatgtttttctaattgtgttaaag

-19	-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			
	CATTAATGCTATGCAGAAAATCTTAGAGTGTCCCATCTGgtaagtcagcacaagagtgtg					
	I	N	A	M	Q	K
			I	L	E	C
			P	I	C	
		21				

.
 ttaatttgggattcctatgattatctcctatgcaaatgaacagaattgaccttacatact

 agggagaagaaagacatgtctagtaagattaggctattgtaattgctgattttcttaactg

 aagaactttaaaaatatagaaaatgattccttgttctccatccactctgcctctccact

.
cctctccttttcaacacaaatcctgtggtccgggaaagacagggactctgtcttgattgg
.
ttctgcactggggcaggaatctagtttagattaactggc

Exon 3 | Start: 102205 | End: 102258 | Length: 53

.
aattcgtaacgaactattatcaactaatcttttaaagtctgatgatagtatagagtattga
.
agggatcaatataattctgttttgatatctgaaagctcactgaaggtaaggatcgtattc
.
tctgctgtattctcagttcctgacacagcagacatttaataaatattgaacgaacttgag
.
gccttatgttgactcagtcataacagctcaaagttgaacttattcactaagaatagcttt
.
atttttaataaattattgagcctcatttattttctttttctccccctaccctgctag
|81 |91 |101 |111 |121 |131 .
TCTGGAGTTGATCAAGGAACCTGTCTCCACAAAGTGTGACCACATATTTTGCAAGtaagt
L E L I K E P V S T K C D H I F C K
|31 |41

.
ttgaatgtgttatgtggctccattattagcttttgttttgtccttcataaaccaggaaa
.
cacctaactttatagaagctttactttcttcaattaagtgagaaacgaaaaatccaactcc
.
atttcattctttctcagagagtatatagttatcaaaagttggttgtaatcatagttcctg
.
gtaaagttttgacatatattatcttttttttttttttgagacaaagtctcgctctgtcg
.
cccaggctggagtgagtgcatgatcttggctcactgcaacctccgcccccg

Exon 4 | Start: 111451 | End: 111528 | Length: 77

```
. . . . .
tatgaatatatcattaaatatgccatattaacttttattaagttttatgtgatcataaca

. . . . .
gtaagccatatgcatgtaagttcagttttcatagatcattgcttatgtagtttaggtttt

. . . . .
tgcttatgcagcatccaaaacaattaggaaactattgcttgtaattcacctgccattac

. . . . .
tttttaaatggctcttaagggcagttgtgagattatcttttcatggctatttgccttttg

. . . . .
agtattctttctacaaaaggaagtaaattggtctttctttctttataatttatag

      |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

. . . . .
gtgtaaaaaacttgcacacttatgtaaagtagggctgtatcgccgtgccccattgtctgt

. . . . .
taatcttgtttttatatt
```

Exon 5 | Start: 113028 | End: 113116 | Length: 88

```
. . . . .
aaattaaacaaaaaaaaaagtactctagttttctatgcaatgcattatatctgctgtgga
. . . . .
tttagggcagttattatatcagataattttaggcatttggtaggcttaaatgaatgacaaa
. . . . .
aagttactaaatcactgccatcacacggtttatacagatgtcaatgatgtattgattata
. . . . .
gagggttttctactgttgctgcatcttattttatttgtttacatgtcttttcttatttta
. . . . .
gtgtccttaaaagggtgataatcacttgctgagtggtgtttctcaaacaatttaatttcag
      |221      |231      |241      |251      |261      |271
GAGCCTACAAGAAAGTACGAGATTTAGTCAACTTGGTTGAAGAGCTATTGAAAATCATTG
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 . . . . .
TGCTTTTCAGCTTGACACAGGTTTGGAGTgtaagtgttgaatatccaagaatgacactc
A F Q L D T G L E Y
                        |101

. . . . .
aagtgtgtccatgaaaactcaggaagtttgcaattactttctatgacgtggtgataa
. . . . .
gaccttttagtctaggttaatttttagttctgtatctgtaattctatttttaaaaaattact
. . . . .
cccactgggtctcacaccttattttatcaatcgtaagggtgcacatttttcacatcttaaca
. . . . .
tctctgaaattgggaacattttactattgagggtgtgtcatttgtttaatttggtgtgctt
. . . . .
tctttcttagtgatacagaaaataatagt
```

Exon 6 | Start: 113723 | End: 113862 | Length: 139

.
tacattgttgggtgtccttagcttttagtgaaatacagtattgataggcaaatttcttagtgt

.
taaggtagaaaacaaggactctaaataactttgatggctgtgtatttgtttttgtttcc

.
taggagtaaaatttccagttgattttttaaaatttgatttttaaaaaaatcacaggtaa

.
ccttaatgcattgtcttaacacaacaagagcatacatagggtttctcttggtttctttg

.
attataattcacatatttttctctaactgcaaacataatgttttcccttgatttttacag

 |311 |321 |331 |341 |351 |361
ATGCAACAGCTATAATTTTGCAAAAAAGGAAAAATAACTCTCCTGAACATCTAAAAGATG
 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

.
cttttttttttctttttttttttgagatggagtccttgctctgtggcccaggctagaagc

.
agtcctcctgccttagcccccttagtagctgggattacaggcacgcgccaccatgccagg

.
ctaatttttgtatttttagtagagacggggtttcatcatgttggccaggctggtctcgaa

.
ctcctaacctcaggtgatccaccacctcggctcccaaattgctgggattacaggtgtg

.
agccactgtgcccggccggt

Exon 7 | Start: 118104 | End: 118209 | Length: 105

```
. . . . .
actactactattatTTTgtagagactgggtctcactctgttgcttatgctggctctgaac
. . . . .
tcctggcctcaagcagtcctgctccagcctcccaaagtgctgggattataggcatgagct
. . . . .
accgctcccagccccagacattttagtgtgtaaattcctgggcatttttccaggcatca
. . . . .
tacatgttagctgactgatgatggcaatttatTTTgtccatgggtgtcaagtttctcttc
. . . . .
aggaggaaaagcacagaactggccaacaattgcttgactgttctttaccatactgttttag
      |451      |461      |471      |481      |491      |501
CAGGAAACCAGTCTCAGTGTCCAACCTCTCTAACCTTGGAACGTGAGAACTCTGAGGACA
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      . .
AAGCAGCGGATACAACCTCAAAAGACGTCTGTCTACATTGAATTGGgtaagggtctcagg
K Q R I Q P Q K T S V Y I E L G
      |171                      |181

. . . . .
ttttttaagtatttaataataattgctggattccttatcttatagttttgccaaaaatct
. . . . .
tggtcataatttgtatttgtggtaggcagctttgggaagtgaattttatgagccctatgg
. . . . .
tgagttataaaaaatgtaaaagacgcagttcccaccttgaagaatcttactttaaaaagg
. . . . .
gagcaaaagaggccaggcatggtggctcacacctgtaatcccagcactttgggaggccaa
. . . . .
agtgggtggatcacctgaggtcgggagttcgagaccagcctagcca
```

Exon 8 | Start: 120695 | End: 120740 | Length: 45

.
 tagaaacgggggtctcactttgttggccaggctggtcttgaactcctaacctcaaataat

 ccacccatctcggcctcctcaagtgtgggattacaggtgagagccactgtgcctggcga

 agcccatgcctttaaccacttctctgtattacatactagcttaactagcattgtacctgc

 cacagtagatgctcagtaaataatttctagttgaatatctgtttttcaacaagtacatttt

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

 acctttgtctatgaagctggtattttcctatttagttaatattaaggattgatgtttctc

 tctttttaaaaatattttaacttttatttttaggttcagggatgtatgtgcagtttgttat

 ataggtaaacacacgacttgggatttggtgtatagattttttcatcatccgggtactaa

 gcataccccacagttttttgtttgctttcttctgaatttctccctcttcccaccttcct

 ccctcaagtaggctggtgttttctccagactagaatcatggtattgg

Exon 9 | Start: 122062 | End: 122138 | Length: 76

.
 gtatttttagtagagatggggtttcacccatgttggccaggctggtcttgaactcatgacc

 tcaagtggtccacccgcctcagcctcccaaagtgtggaattacaggcttgagccaccgt

.
 gccagcaaccatttcatttcaactagaagtttctaaaggagagagcagctttcactaac

 taaataagattgggtcagctttctgtaatcgaaagagctaaaatgtttgatcttgggtcatt

 tgacagttctgcatacatgtaactagtgtttcttattaggactctgtcttttcctatag

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

 |661
 GGATTCTGCAAAAAAGGtaatggcaaagtttgccaacttaacaggcactgaaaagagag
 D S A K K A
 |221

 tgggtagatacagtactgtaattagattattctgaagaccatttgggacctttacaaccc

 acaaaatctcttggcagagtttagagtatcattctctgtcaaatgtcgtgggtatgggtctga

 tagatttaaattggtactagactaatgtacctataataagaccttctgtaactgattgttg

 ccctttcgtttttttttgtttgtttgtttgttttttttgagatgggggtctcactctg

 ttgccaggtggagtg

Exon 10 | Start: 123124 | End: 126549 | Length: 3425

.
 agttttctgatggccaatctgcttttaattcactcttagacgttagagaaataggtgtgg

 tttctgcatagggaattctgaaattaaaaatttaatggatcctaagtggaaataatct

 aggtaaataggaattaaatgaaagagtatgagctacatcttcagtatacttggtagttaa

```

. . . . .
tgagggttagtttctctaatatagccagttggttgatttccacctccaaggtgtatgaagt

. . . . .
atgtattttttaataatgacaattcagtttttgagtaccttggtatttttgtatattttcag

|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
GTTCTGTTTCAAACCTGCATGTGGAGCCATGTGGCACAAATACTCATGCCAGCTCATTAC
  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
CTAGAGATACTGAAGATGTTCTTGGATAACACTAAATAGCAGCATTGAGAAAAGTTAATG
  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
GTTCTTCAGAGAAAAAGACTTACTGGCCAGTGATCCTCATGAGGCTTTAATATGTAAAA					
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
CCTATCGGAAGAAGGCAAGCCTCCCAACTTAAGCCATGTAAGTGAAGTCTAATTATAG					
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
GAGCATTTGTTACTGAGCCACAGATAATACAAGAGCGTCCCCTCACAAATAAATTAAAGC					
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
GTAAAAGGAGACCTACATCAGGCCTTCATCCTGAGGATTTTATCAAGAAAGCAGATTGG					
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
CAGTTCAAAAGACTCCTGAAATGATAAATCAGGGAACCTAACCAACGAGCAGAATGGTC					
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
AAGTGATGAATATTACTAATAGTGGTCATGAGAATAAAACAAAAGGTGATTCTATTGAGA					
V	M	N	I	T	N
		S	G	H	E
		N	K	T	K
		G	D	S	I
		Q	N		
		551			561

CTGAAGACCCCAAAGATCTCATGTTAAGTGGAGAAAGGGTTTGCAAACTGAAAGATCTG
 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
 TAGAGAGTAGCAGTATTTCATTGGTACCTGGTACTGATTATGGCACTCAGGAAAGTATCT
 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
 CGTTACTGGAAGTTAGCACTCTAGGGAAGGCAAAAACAGAACCAAATAAATGTGTGAGTC
 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
 AGTGTGCAGCATTGAAAACCCCAAGGGACTAATTCATGGTTGTTCCAAAGATAATAGAA
 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
 GCATAGAAATGGAAGAAAGTGAAGTCTGATGCTCAGTATTTGCAGAATACATTCAAGGTTT
 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
 CAAAGCGCCAGTCATTGCTCCGTTTCAAATCCAGGAAATGCAGAAGAGGAATGTGCAA
 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
 GTAGTATCAAAGGAGGCTCTAGGTTTGTCTATCATCTCAGTTCAGAGGCAACGAAACTG
 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
 TTCCCATCAAGTCATTGTGTTAAACTAAATGTAAGAAAAATCTGCTAGAGGAAAACTTG
 P I K S F V K T K C K K N L L E E N F E
 |991 |1001
 |3011 |3021 |3031 |3041 |3051 |3061
 AGGAACATTCAATGTCACCTGAAAGAGAAATGGGAAATGAGAACATTCCAAGTACAGTGA
 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
 GTGATGAAAAACATTCAAGCAGAACTAGGTAGAAAACAGAGGGCCAAAATTGAATGCTATGC
 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
AGGTTTGTCTGAGACACCTGATGACCTGTTAGATGATGGTGAAATAAAGGAAGATACTA					
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

.
 gtggacttacttctggtttcattttataaaagcaaattccaggtgtcccaaagcaaggaat

 ttaatcattttgtgtgacatgaaagtaaattccagtcctgccaatgagaagaaaaagacac

 agcaagttgcagcgtttatagtctgcttttacatctgaacctctgtttttgttatttaag
 |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

 gtgtgtggtgtcctttgcattcagtagtatgtatccacattcttaggtttgctgacatc

 atctctttgaattaatggcacaattgtttgtggttcattgtctccttaaattagactgta

 agcaccttgatggaactcatactaccttttatttcacacacacgcacacgcgcacacaca

 gcctacacatacactgccttagctcattgtagcatactaaatactgattttaatgaataag

 ctaaacccttcgaaaccatttgctaattcc

Exon 12 | Start: 135409 | End: 135580 | Length: 171

.
 tattttttcactccctagcttttaaagaaaataaccaacttcaaaaggacatcacataa

 catcaagtctatttgggggaatttgaggattttttccctcactaacatcatttggaata

 atttcatgggcattaattgcatgaatgtggttagattaaaagggtgttcagctagaacttg

.
 tagttccatactaggtgatttcaattcctgtgctaaaattaatttgatgatatttttc

 atttaatggaaagcttctcaaagtatttcattttcttggtgccatttatcgtttttgaag

 |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
 GCTGTGTTAGAACAGCATGGGAGCCAGCCTTCTAACAGCTACCCCTTCATCATAAGTGAC
 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

 tgttggccaaacactgatattttaagcaaaattctttccttcccctttatctccttctga

 agagtaaggacctagctccaacattttatgatccttgctcagcacatgggtaattatgga

 gccttggttcttgctcctgctcacaactaatataaccagtcagagggaccaaggcagtca

 ttcattgtgtcatctgagtacctacaacaagtagatgctatggggagcccatggaagata

 catggtataacaacatagctcttgctctattggaagctaagtggaatgggaga

Exon 13 | Start: 141370 | End: 141496 | Length: 126

.
 tcagggccaaggaatatagatttttttttcagccttgctcagctgggtgtctttattt

 actctgtcttaaagtggttccttttattatcattatttttttaattcattgaattccatt

.
 tgggtgctagcatctgtctgttgcatgcttggtgtttataaaattctgcctgatataacttg

 tttaaaaaccaatttgtgtatcatagattgatgcttttgaaaaaatcagtattctaacc

 tgaattatcactatcagaacaaagcagtaaagtagatttgttttctcattccatttaaag
 |4361 |4371 |4381 |4391 |4401 |4411
 CAGTATTAACTTCACAGAAAAGTAGTGAATACCCTATAAGCCAGAATCCAGAAGGCCTTT
 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
 CTGCTGACAAGTTTGAGGTGTCTGCAGATAGTTCTACCAGTAAAAATAAAGAACCAGGAG
 A D K F E V S A D S S T S K N K E P G V
 |1481 |1491
 |4481
 TGGAAAGgtaagaacatcaatgtaaagatgctgtggtatctgacatctttatttatatt
 E R

 gaactctgattgttaatttttttcaccatactttctccagttttttgcatacaggcattt

 atacacttttattgctctaggatacttcttttgtttaatcctatataggttttttgaacc

 tataacataagctacaacatgagaaatgtgcggttagatagatatgtcccttctgaaggt

 cagaaaaaatataatggaggtaaacctgaacaagcttggaactgatggtagacttct
 . . .
 tcaaggc

Exon 14 | Start: 143463 | End: 143653 | Length: 190

.
 agcctcccgagtagctgagattacaggcgccagccaccacaccagctactgacctgctt

.
 ttaaacagctgggagatatggtgcctcagaccaaccaaccccatgttatatgtcaaccc

 tgacatatattggcaggcaacatgaatccagacttctaggctgtcttgcgggctcttttttg

 ccagtcatttctgatctctctgacatgagctgtttcatttatgctttggctgcccagcaa

 gtatgatttgcctttcacattggtggcgatggttttctccttcatttatctttctag
 |4491 |4501 |4511 |4521 |4531 |4541
 GTCATCCCCCTTCTAAATGCCCATCATTAGATGATAGGTGGTACATGCACAGTTGCTCTGG
 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
 GAGTCTTCAGAATAGAACTACCCATCTCAAGAGGAGCTCATTAAAGTTGTTGATGTGGA
 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
 GGAGCAACAGCTGGAAGAGTCTGGGCCACACGATTTGACGGAACATCTTACTTGCCAAG
 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

 atcctacataaagatatctggttaaccaacttttagatgtactagtctatcatggacac

 ttttgttataacttaattaagccacttttagaaaaatagctcaagtgttaatcaaggttta

 cttgaaaattattgaaactgttaatccatctatatatttaattaatggtttaactaatgat

 tttgaggatgagggagtcttggtgtactctaaatgtattatttcaggccaggcatagtgg
 . . .

ctcacgcctgt

Exon 15 | Start: 146746 | End: 147056 | Length: 310

.
tctaaaattatactattcctatgactaaaccttgcataatatcttttatctccctaggat
.
atatttctaaaactagcattgttgactgaaagtgtaaatacgtgttaagggtgttgctac
.
ataatgccatatttccttttaggaaactaagctactttggatttcaccaacactgtat
.
tcatgtaccatttttctcttaacctaactttattggtctttttaattcttaacagagac
.
cagaactttgtaattcaacattcatcgttgtgtgtaaattaaacttctcccattcctttcag

 |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      . . . . .
CAGAAGAATTTgtgagtgtatccatatgtatctccctaatagacttaacaacatt
      E E F
      |1661

. . . . .
ctggaaagagttttatgtaggtattgtcaattaataacctagaggaagaatctagaaaa

. . . . .
caatcacagttctgtgtaatttaatttcgattactaatttctgaaaatttagatctagat

. . . . .
aaagctatagtgtggattattttatgtatatttacttgagaaaataattattaaatatta

. . . . .
gtggaaaagctatactttgggtatgatataggactttcgaattggaatttcccttctat

. . . . .
ctgtaaaagca

```

Exon 16 | Start: 150289 | End: 150376 | Length: 87

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. . . . .
gagacttcaggtgtcttagaattttttaaatgtacccttctgagaaaaacagagactta

. . . . .
aagctaggataactgggtattctattttttttttttttttttttttacctccagcctgggt

. . . . .
gacagagcaagactctgtctaaaaaaaaaaaaaaaaaattcactttaaatagttccagg

. . . . .
acacgtgtagaacgtgcaggattgctacataggtaaacatatgccatgggtggaataacta

. . . . .
gtattctgagctgtgtgctagaggtaactcatgataatggaatatttgatttaatttcag

```

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      |4991      |5001      |5011      |5021      |5031      |5041
ATGCTCGTGTACAAGTTTGCCAGAAAAACACCACATCACTTTAACTAATCTAATTACTGAA
M L V Y K F A R K H H I T L T N L I T E
                        |1671                        |1681

```

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      |5051      |5061      |5071      . . . . .
GAGACTACTCATGTTGTTATGAAAACAGgtataccaagaacctttacagaataccttgca

```

E T T H V V M K T D
|1691

.
tctgctgcataaaaccacatgaggcgaggcacggtggcgcatgcctgtaatcgagcact
.
ttgggaggccgaggcgggcagatcacgagattaggagatcgagaccatcctggccagcat
.
ggtgaaaccccgctctctactaaaaataaaaaattagctgggtgtggtcgctgcgcct
.
gtagtcccagctactcgtgaggctgaggcaggagaatcacttgaaccggggagatggagg
.
ttgcagtgagccgagatcatgccactgc

Exon 17 | Start: 154033 | End: 154110 | Length: 77

.
tataatggagatctatagctagccttggcgtctagaagatgggtgttgagaagaggaggt
.
ggacagatatttcctctggtcttaacttcatatcagcctcccctagacttccaaatatcc
.
atacctgctggttataaattagtggtgttttcagcctctgattctgtcaccaggggtttta
.
gaatcataaatccagattgatcttgggagtgtaaaaactgaggctcttagcttcttag
.
gacagcacttcctgattttgttttcaacttctaatacctttgagtgttttctattctgcag

|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
GGGTAGTTAGCTATTTCTgtaagtataataactatctccctcctccctttaacacctc
V V S Y F W

.
 agaattgcatttttacacctaacgtttaacacctaagggttttgctgatgctgagtctga

 gttaccaaagggtctttaattgtaataactaaactacttttatctttaatatcactttgtt

 cagataagctggtgatgctgggaaaatgggtctcttttataactaataggacctaactctg

 ctcttagcaatgtagcatatgagctagggatttatttaatatgtaggcaggaatccatgt

 gcagcaggcaaacttata

Exon 18 | Start: 154611 | End: 154651 | Length: 40

.
 ataactaataggacctaactctgctcctagcaatgtagcatatgagctagggatttattt

 aatagtcggcaggaatccatgtgcagcaggcaaacttataatgtttaattaacatcaa

 ctctgtctccagaaggaaactgctgctacaagccttattaagggtgtggcttttagagg

 gaaggacctctcctctgtcattcttctgtgctcttttgtgaatcgctgacctctctatc

 tccgtgaaaagagcacgttcttctgctgtatgtaacctgtcttttctatgatctctttag

 GGGTGACCCAGTCTATTAAAGAAAGAAAAATGCTGAATGAGgtaagtacttgatgttaca
 V T Q S I K E R K M L N E

 aactaaccagagatattcattcagtcatatagttaaaaatgtatttgcttccttccatca

 atgcaccactttccttaacaatgcacaaatttccatgataatgaggatcatcaagaatt

.
 atgcaggcctgcactgtggctcatacctataatcccagcgctttgggaggctgaggcgct

 tggatcacctgatgtcgggagttcaagaccagcctgaccaacatggagaaacccgtttc

 tactaaaaatacaaaattagccgggcttggtggcacttgcc

Exon 19 | Start: 160849 | End: 160932 | Length: 83

.
 gcattcaaaagattctcctgcctcagcctcccaagtagctgggattacaggctgcctgcc

 ccacgccaactaatttttgtatttttagtagagatgaggtttcaccatgttggtcaga

 ctggtgtcgaactcctgacctcaagtgatctgcctgcctcagctctccaaagtgctagga

 ttacaggggtgagccactgcgctggcctgaatgccttaaatatgacgtgtctgctccac

 ttccattgaaggaagcttctctttcttctatcctgatgggtgtgtttggtttctttcag

5201	5211	5221	5231	5241	5251
CATGATTTTGAAGTCAGAGGAGATGTGGTCAATGGAAGAAACCAAGGTCCAAAGCGA					
H D F E V R G D V V N G R N H Q G P K R					
	1741				1751

5261	5271
GCAAGAGAATCCCAGGACAGAAAAGgtaaagctccctccctcaagttgacaaaaatctcac		
A R E S Q D R K		

.
 cccaccactctgtattccactcccctttgcagagatgggccgcttcattttgtaagactt

 attacatacatcacagtgtctagatactttcacacaggttcttttttctactcttccatcc

 caaccacataaataagtattgtctctactttatgaatgataaaactaagagatttagaga

.
 ggctgtgtaatttgattcccgctctcgggttcagatcttagctgataagtggaagagctg

 ggactttaagcagatgagaatcta

Exon 20 | Start: 166867 | End: 166921 | Length: 54

.
 cttggcctgattggtgacaaaagtgagatgctcagtccttgatgacaaagaatgcctgt

 agagtgcaggtcaactacatatgcacttcaagaagatcttctgaaatccagtagtgttct

 ggacattggactgcttgctccctgggaagtagcagcagaaatcatcaggtggtgaacagaa

 gaaaaagaaaagctcttcctttttgaaagtctgttttttgaataaaagccaatattcttt

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

.
 agcctgggagaaccccagagttccagcaccagcctttgtcttacatagtgaggattattata

 agcaagatcccacgatgggggttcctcagattgctgaaatgttctagaggctattctatt

 tctctaccactctccaaacaaaacagcacctaaatgttatcctatggcaaaaaaaacta

 taccttggtcccccttctcaagagcatgaagggtggttaatagttaggattcagtatgttat

 gtgttcagatggcggtgagctgctgttagtgccaacatgttagtgagaaaaatc

Exon 21 | Start: 168790 | End: 168863 | Length: 73

.
attaatggaaattagatctttgattttttttctttcaagcattttatttgagagactat

.
caaaccttataccaagtggccttatggagactgataaccagagtacatggcatatcagtg

.
gcaaattgacttaaaatccatacccctactattttaagaccattgtcctttggagcagag

.
agacagactctccattgagaggtcttgctataagccttcacccggagagtgtagggtag

.
agggcctgggttaagtatgcagattactgcagtgattttacatctaaatgtccattttag

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

 |5401
TCACCCTTGGCACAgtaagtattgggtgccctgtcagagagggaggacacaatattctct
 T L G T
 |1801

.
cctgtgagcaagactggcacctgtcagtcctatggatgccctactgtagcctcagaag

.
tcttctctgcccacatacctgtgccaaaagactccatctgtaagggatgggtaaggattt

.
gagaactgcacatattaaatatactgaggggaagactttttccctctaactctttttccca

.
tatgtccctccccctcctctctgtgactgccccagcatactgtgtttcaacaaatcatca

. . . .
agaaatgatgggct

Exon 22 | Start: 170281 | End: 170341 | Length: 60

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. . . . .
ccaggagtttgagaccagcctgggcaacatggcaaaaccctgtctctaccaaaaatacaa
. . . . .
aaaaattagccaggggtggtggtacgtgtctgtagttccagctacttaggaggctgagat
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. . . . .
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. . . . .
tgacagttccagtagtcctactttgacactttgaatgctcttccttcctggggatccag
      |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
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. . . . .
Ggtaaggctgcctgcatgtacctgtgctatatggggtccttttgcattgggtttggtttatc
A
. . . . .
actcattacctggtgcttgagtagcacagttcttggcacattttaaatatttggtgaatg
. . . . .
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acatgaactgtttccatgggggtgggagtaagatatgaatgttcacacaaaaacataaat
. . . . .
caaggccgggcatggtggctcatgcctataattccagcactttgggaggtcaagatggag
.
g
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Exon 23 | Start: 172182 | End: 173689 | Length: 1507

.
 taaaaatacaaaaattagctgggtgtgatggcatgtgcctgtaattccagctactcagga

 ggcagagacaggagaattgcttgaacccaggaggcggaggtgaatgagccgagattgcg

 ccatcacactctagcctcggcgacagagcaagactccgtctcaaaaaaaaaaaaaaaaaa

 ttagcttctacctcattaatcctaagaactcatacaaccaggaccctggagtcgattgat

 tagagcctagtccaggagaatgaattgacactaatctctgcttgtgttctctgtctccag
 |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
 CACTCTACCAGTGCCAGGAGCTGGACACCTACCTGATACCCGAGATCCCCACAGCCACT
 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
 *
 |*61 |*71 |*81 |*91 |*101 |*111
 GGCCTTTCCAGGCCCTGGGAGCTCCTCTCACTCTTCAGTCCTTCTACTGTCCTGGCTACT
 |*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

GGCTTGGCCTCAAGAGAATAGCTGGTTTCCCTAAGTTTACTTCTCTAAAACCTGTGTTC

 |*421 |*431 |*441 |*451 |*461 |*471
ACAAAGGCAGAGAGTCAGACCCTTCAATGGAAGGAGAGTGCTTGGGATCGATTATGTGAC

 |*481 |*491 |*501 |*511 |*521 |*531
TTAAAGTCAGAATAGTCCTTGGGCAGTTCTCAAATGTTGGAGTGGAACATTGGGGAGGAA

 |*541 |*551 |*561 |*571 |*581 |*591
ATTCTGAGGCAGGTATTAGAAATGAAAAGGAACTTGAAACCTGGGCATGGTGGCTCAGC

 |*601 |*611 |*621 |*631 |*641 |*651
CCTGTAATCCCAGCACTTTGGGAGGCCAAGGTGGGCAGATCACTGGAGGTCAGGAGTTCG

 |*661 |*671 |*681 |*691 |*701 |*711
AAACCAGCCTGGCCAAACATGGTGAAACCCCATCTCTACTAAAAATACAGAAATTAGCCGG

 |*721 |*731 |*741 |*751 |*761 |*771
TCATGGTGGTGGACACCTGTAATCCCAGCTACTCAGGTGGCTAAGGCAGGAGAATCACTT

 |*781 |*791 |*801 |*811 |*821 |*831
CAGCCCGGAGGTGGAGGTTGCAGTGAGCCAAGATCATACCACGGCACTCCAGCCTGGGT

 |*841 |*851 |*861 |*871 |*881 |*891
GACAGTGAGACTGTGGCTCAAAAAAAAAAAAAAAAAAGGAAAATGAACTAGAAAGAGAT

 |*901 |*911 |*921 |*931 |*941 |*951
TTCTAAAAGTCTGAGATATATTTGCTAGATTTCTAAAGAATGTGTTCTAAAACAGCAGAA

 |*961 |*971 |*981 |*991 |*1001 |*1011
GATTTTCAAGAACCGTTTCCAAAGACAGTCTTCTAATTCCTCATTAGTAATAAGTAAAA

 |*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
GTTGGAAGGACTAGGTCTTCCCTAGCCCCCAGTGTCAGGGCAGTGAAGACTTGATT

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      |*1321      |*1331      |*1341      |*1351      |*1361      |*1371
GTACAAAATACGTTTTGTAAATGTTGTGCTGTTAACTGCAAATAAACTTGGTAGCAAA

      |*1381 . . . . .
CACTTCCAccatgaatgactgttcttgagacttaggccagccgactttctcagagccttt

. . . . .
tcactgtgcttcagtctcccactctgtaaaatgggggtaatgatagtatctacctcctag

. . . . .
gatttattgaggcagcttaaataccttttgatattcctgttgctgcaaaacaaattgtt

. . . . .
gcaaggtcagaagtctgaggtggctcaactgtttctttgtttcaggtttcatgaggccaa

. . . . .
aataaagtggttcgcagggcgtgttccttctagaggctctgggtccttgagttctagg

. . .
actaagat

```

```

LRG Parser: Version: 1.1, Version Date: 11/02/2015
Reader: Version: 1, Version Date: 11/02/2015
Writer: Version: 1, Version Date: 11/02/2015
Control: Version: 1, Version Date: 11/02/2015

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