

Gene: BRCA1 - Sequence: NG\_005905.2  
 Transcript: NM\_007294.3 - Protein: NP\_009225.1  
 Date : February 12, 2015

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

Exon 1 | Start: 0 | End: 213 | Length: 213

-229	-219	-209	-199	-189	-179
GTACCTTGATTTTCGTATTCTGAGAGGCTGCTTAGCGGTAGCCCCTTGGTTTCCGTGG					
-169	-159	-149	-139	-129	-119
CAACGGAAAAGCGCGGAATTACAGATAAATTAATACTGCGACTGCGGGCGTGAGCTCG					
-109	-99	-89	-79	-69	-59
CTGAGACTTCCTGGACGGGGACAGGCTGTGGGGTTTCTCAGATAACTGGGCCCTGCGC					
-49	-39	-29	.	.	.
TCAGGAGGCCTTCACCTCTGCTCTGGGTAAAGgtagtagagtcccgggaaaggacagg					
.	.	.	.	.	.
gggcccgaagtgatgctctgggtactggcgtgggagagtggatttccgaagctgacagat					
.	.	.	.	.	.
gggtattctttgacgggggtaggggcggaacctgagaggcgtaaggcgttgtaaccct					
.	.	.	.	.	.
ggggaggggggcagtttgtaggtcgcgagggaagcgctgaggatcaggaagggggcactg					
.	.	.	.	.	.
agtgtccgtgggggaatcctcgtgataggaactggaatatgccttgagggggacactatg					
.	.	.	.	.	.
tctttaaaaacgtcgggtggtcatgaggtcagg					

Exon 2 | Start: 1368 | End: 1467 | Length: 99

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. . . . .
aggctaccaccacctacccggtcagtcactcctctgtagctttctctttcttgagaaag

. . . . .
gaaaagaccaaggggttggcagcaatatgtgaaaaattcagaatttatgttgtctaata

. . . . .
tacaaaaagcaacttctagaatctttaaaaataaaggacgttgtcattagttctttgggtt

. . . . .
tgtattattctaaaaccttccaaatcttaaattactttattttaaaatgataaaatgaa

. . . . .
gttgtcattttataaaccttttaaaaagatatatatatgtttttctaattgtgttaaag

|-19      |-9      |1      |11      |21      |31      |41
TTCATTGGAACAGAAAGAAATGGATTATCTGCTCTTCGCGTTGAAGAAGTACAAAATGT
      M D L S A L R V E E V Q N V
      |1                      |11

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

. . . . .
ttaatttgggattcctatgattatctcctatgcaaatgaacagaattgaccttacatact

. . . . .
agggagaagaaagacatgtctagtaagattaggctattgtaattgctgattttcttaactg

. . . . .
aagaactttaaaaatatagaaaatgattccttggttctccatccactctgcctctccact

. . . . .
cctctccttttcaacacaaatcctgtgggtccgggaagacagggactctgtcttgattgg

. . . . .
ttctgcactggggcaggaatctagtttagattaactggc

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Exon 3 | Start: 9704 | End: 9758 | Length: 54

. . . . .  
 aattcgtagaactattatcaactaatcttttaaagctgatgatagtagattga  
 . . . . .  
 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  
 . . . . .  
 ttgaatgtgttatgtggctccattattagcttttggttttgctcttcataaccagga  
 . . . . .  
 cacctaactttatagaagctttactttcttcaattaagtgagaaacgaaaaatccaactcc  
 . . . . .  
 atttcattctttctcagagagtatatagttatcaaaagttggttgtaatcatagttcctg  
 . . . . .  
 gtaaagtttgacatatattatcttttttttttttttgagacaaagtctcgctctgtcg  
 . . . . .  
 ccaggctggagtgagtgcatgatcttggctcactgcaacctccgcccccg

Exon 4 | Start: 18950 | End: 19028 | Length: 78

. . . . .  
 tatgaatatatcattaaatatgccatattaacttttattaagttttatgtgatcataaca

. . . . .  
 gtaagccatatgcatgtaagttcagttttcatagatcattgcttatgtagtttaggtttt  
  
 . . . . .  
 tgcttatgcagcatccaaaaacaattaggaaactattgcttgtaattcacctgccattac  
  
 . . . . .  
 tttttaaatggctcttaagggcagttgtgagattatcttttcatggctatttgccttttg  
  
 . . . . .  
 agtattctttctacaaaaggaagtaaattggttctttctttctttataatttatag  
  
 |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 . . . . .  
 GAATGATATAACCAAAAGgtatataatttggtaatgatgctaggttggaagcaaccacag  
 N D I T K R  
 |71  
  
 . . . . .  
 taggaaaaagtagaaattatttaataacatagcggttcctataaaaccattcatcagaaaa  
  
 . . . . .  
 atttataaaagagtttttagcacacagtaaattatttccaaagttattttcctgaaagtt  
  
 . . . . .  
 ttatgggacatctgccttatacaggtattagaaacttactgcctttctctaagtcttcta  
  
 . . . . .  
 gtgtaaaaacttgagacttatgtaaagtagggctgtatcgccgtgccccattgtctgt  
  
 . . . . .  
 taatcttgtttttatatt

Exon 5 | Start: 20527 | End: 20616 | Length: 89

. . . . .  
 aaattaaacaaaaaaaaaagtactctagttttctatgcaatgcattatatctgctgtgga

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. . . . .
tttagggcagttatttatatcagataattttaggcatttggttaggcttaaatgaatgacaaa

. . . . .
aagttactaaatcactgccatcacacggttttatacagatgtcaatgatgtattgattata

. . . . .
gagggttttctactgttgctgcatcttatttttatttggtttacatgtcttttcttatttta

. . . . .
gtgtccttaaaaggttgataatcacttgctgagtggtgttttctcaaacaatttaatttcag

      |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 . . . . .
TGCTTTTCAGCTTGACACAGGTTTGGAGTgtaagtgttgaatatcccaagaatgacactc
A F Q L D T G L E Y
                        |101

. . . . .
aagtgtgtccatgaaaactcaggaagtttgcaaatcttctctatgacgtggtgataa

. . . . .
gaccttttagtctaggttaatttttagttctgtatctgtaatatctatttttaaaaaattact

. . . . .
cccactggtctcacaccttattttatcaatcgtaagggtgcacatttttcacatcttaaca

. . . . .
tctctgaaattgggaacattttactattgagggtgtgtcatttgtttaatttggtgtgctt

. . . . .
tctttcttagtgatacagaaaataatagt

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Exon 6 | Start: 21222 | End: 21362 | Length: 140

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. . . . .
tacattgttggtgtcttagcttttagtgaaatacagattgataggcaaatttcttagtgt

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. . . . .
taaggtagaaaacaaggactctaaataactttgatggctctgtgtatttgttttgtttcc

. . . . .
taggagtaaaatttccagttgattttttaaaatttgatttttaaaaaaatcacaggtaa

. . . . .
ccttaatgcattgtcttaacacaacaagagcatatagggtttctcttggtttctttg

. . . . .
attataattcatacatTTTTCTCTAactgcaaacataatgttttcccttgatttttacag

      |311      |321      |331      |341      |351      |361
ATGCAACAGCTATAATTTTGCAAAAAGGAAAATAACTCTCCTGAACATCTAAAAGATG
  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 . . . . .
AACCCGAAAATCCTTCCTTGgtaaaaccatttgtttcttcttcttcttcttcttctt
  P  E  N  P  S  L

. . . . .
cttttttttttcttttttttttttgagatggagtccttgctctgtggcccaggctagaagc

. . . . .
agtcctcctgccttagcccccttagtagctgggattacaggcacgcgccaccatgccagg

. . . . .
ctaatttttgtatttttagtagagacggggtttcatcatgttggccaggctggtctcgaa

. . . . .
ctcctaacctcaggatccaccacctcggctcccaaattgctgggattacaggtgtg

. . . . .
agccactgtgcccggccggt

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Exon 7 | Start: 25603 | End: 25709 | Length: 106

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. . . . .
actactactattatTTTgtagagactgggtctcactctgttgcttatgctgggtcttgaac
. . . . .
tcctggcctcaagcagtcctgctccagcctcccaaagtgtgggattatagggcatgagct
. . . . .
accgctcccagccccagacatttttagtgtgtaaattcctgggcattttttccaggcatca
. . . . .
tacatgttagctgactgatgatggtcaatttatTTTgtccatgggtgtcaagtttctcttc
. . . . .
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

. . . . .
TTTTTTaagtatttaataataattgctggattccttatcttatagttttgccccaaatct
. . . . .
tggtcataatttgTatttgTgtaggcagctttgggaagtgaattttatgagccctatgg
. . . . .
tgagttataaaaaatgtaaaagacgcagttcccaccttgaagaatcttactttaaaaagg
. . . . .
gagcaaaagaggccaggcatggtggctcacacctgtaatccagcactttgggaggccaa
. . . . .
agtgggtggatcacctgaggtcgggagttcgagaccagcctagcca

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Exon 8 | Start: 28194 | End: 28240 | Length: 46

. . . . .  
 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  
 . . . . .  
 ccctcaagtaggctggtgtttctccagactagaatcatggtattgg

Exon 9 | Start: 29561 | End: 29638 | Length: 77

. . . . .  
 gtatttttagtagagatgggggtttcacccatgttggccaggctggtcttgaactcatgacc



. . . . .  
 tcaagtgggtccacccgcctcagcctcccaaagtgctggaattacaggcttgagccaccgt  
 . . . . .  
 gccagcaaccatttcatttcaactagaagtttctaaaggagagagcagctttcactaac  
 . . . . .  
 taaataagattgggtcagctttctgtaatcgaaagagctaaaatgtttgatcttggtcatt  
 . . . . .  
 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  
 GGATTCTGCAAAAAAGGgtaatggcaaagtttgccaacttaacaggcactgaaaagagag  
 D S A K K A  
 |221  
 . . . . .  
 tgggtagatacagtactgtaattagattattctgaagaccatttgggacctttacaacc  
 . . . . .  
 acaaaatctcttggcagagttagagtatcattctctgtcaaatgtcgtgggtatgggtctga  
 . . . . .  
 tagatttaaattggtactagactaatgtacctataataagaccttctgtaactgattgtg  
 . . . . .  
 ccctttcgttttttttttgtttgtttgtttgttttttttgagatgggggtctcactctg  
 . . . . .  
 ttgccaggttgagtg

Exon 10 | Start: 30623 | End: 34049 | Length: 3426  
 BE AWARE: This section overlaps with the following exon

. . . . .  
 agttttctgatggccaatctgcttttaattcactcttagacgttagagaaataggtgtgg

. . . . .  
 tttctgcatagggaaaattctgaaattaaaaatttaatggatcctaagtggaaataatct  
 . . . . .  
 aggtaaataggaattaaatgaaagagtatgagctacatcttcagtataacttggtagtta  
 . . . . .  
 tgagggttagtttctctaatatagccagttggttgatttccacctccaaggtgtatgaagt  
 . . . . .  
 atgtatTTTTTaatgacaattcagtttttgagtaccttggtatTTTTTgtatTTTTTcag  
 |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  
 ATGATTGGAACACCACTGAGAAGCGTGCAGCTGAGAGGCATCCAGAAAAGTATCAGGGTA  
 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  
 GTTCTGTTTCAAACCTTGCATGTGGAGCCATGTGGCACAAATACTCATGCCAGCTCATTAC  
 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  
 CTGATCCCTGTGTGAGAGAAAAGAATGGAATAAGCAGAAACTGCCATGCTCAGAGAATC  
 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
CTAGAGATACTGAAGATGTTTCCTTGGATAAACAATAAGCAGCATTGAGAAAGTTAATG					
R	D	T	E	D	V
		371			381
1151	1161	1171	1181	1191	1201
AGTGGTTTTCCAGAAGTGATGAACTGTTAGGTTCTGATGACTCACATGATGGGGAGTCTG					
W	F	S	R	S	D
		391			401
1211	1221	1231	1241	1251	1261
AATCAAATGCCAAAGTAGCTGATGTATTGGACGTTCTAAATGAGGTAGATGAATATTCTG					
S	N	A	K	V	A
		411			421
1271	1281	1291	1301	1311	1321
GTTCTTCAGAGAAAATAGACTTACTGGCCAGTGATCCTCATGAGGCTTTAATATGTAAAA					
S	S	E	K	I	D
		431			441
1331	1341	1351	1361	1371	1381
GTGAAAGAGTTCACTCCAAATCAGTAGAGAGTAATATTGAAGACAAAATATTTGGGAAAA					
E	R	V	H	S	K
		451			461
1391	1401	1411	1421	1431	1441
CCTATCGGAAGAAGGCAAGCCTCCCAACTTAAGCCATGTAAGTGAATACTAATTATAG					
Y	R	K	K	A	S
		471			481
1451	1461	1471	1481	1491	1501
GAGCATTGTACTGAGCCACAGATAATACAAGAGCGTCCCTCACAAATAAATTAAAGC					
A	F	V	T	E	P
		491			501
1511	1521	1531	1541	1551	1561
GTAAAAGGAGACCTACATCAGGCCTTCATCCTGAGGATTTTATCAAGAAAGCAGATTTGG					
K	R	R	P	T	S
		511			521
1571	1581	1591	1601	1611	1621
CAGTTCAAAAGACTCCTGAAATGATAAATCAGGGAACCTAACCAACGAGCAGAATGGTC					
V	Q	K	T	P	E
		531			541

1631	1641	1651	1661	1671	1681
AAGTGATGAATATTACTAATAGTGGTCATGAGAATAAAACAAAAGGTGATTCTATTCAGA					
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
ATGAGAAAAATCCTAACCCAATAGAAATCACTCGAAAAAGAATCTGCTTTCAAACGAAAG					
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
CTGAACCTATAAGCAGCAGTATAAGCAATATGGAAGTCTGAATTAAATATCCACAATTCAA					
E	P	I	S	S	S
			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
CAAATGAACAGACAAGTAAAAGACATGACAGCGATACTTTCCAGAGCTGAAGTTAAACAA					
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
ATGCACCTGGTTCTTTTACTAAGTGTTCAAATACCAGTGAACCTAAAGAATTTGTCAATC					
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
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
TAGAGAGTAGCAGTATTTTCATTGGTACCTGGTACTGATTATGGCACTCAGGAAAGATCT					
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
AGTGTGCAGCATTTGAAAACCCCAAGGGAATAATTCATGGTTGTTCCAAAGATAATAGAA					
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
GCATAGAAATGGAAGAAAGTGAAGTGGTCTCAGTATTTGCAGAATACATTCAAGGTTT					
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	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  
GACTCATTACTCCAAATAAACATGGACTTTTACAAAACCCATATCGTATACCACCCTTT  
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  
TTCCCATCAAGTCATTGTGTTAAACTAAATGTAAGAAAAATCTGCTAGAGGAAAACTTTG  
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  
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  
 AGGTTTGTCTGAGACACCTGATGACCTGTTAGATGATGGTGAAATAAAGGAAGACTACTA  
 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      . . . . .
ACTTAGgtattggaaccagggttttgtgtttgccccagtcctatttatagaagtgagctaa
  L G

. . . . .
atgtttatgcttttggggagcacattttacaaattccaagtatatagttaaaggaactgct

. . . . .
tcttaaacttgaaacatgttcctcctaagggtgcttttcatagaaaaaagtccttcacaca

. . . . .
gctaggacgtcatctttgactgaatgagctttaacatcctaattactgggtggacttactt

. . . . .
ctggtttcattttataaaagcaaataccagggtgtcccaaagcaaggaatttaatacattttg

. . .
tgtgac

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Exon 11 | Start: 34451 | End: 34540 | Length: 89



```

. . . . .
aaaggaactgcttcttaaacttgaaacatgttcctcctaagggtgcttttcatagaaaaaa
. . . . .
gtccttcacacagctaggacgtcatctttgactgaatgagctttaacatcctaattactg
. . . . .
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
. . . . .
gtgtgtggtgtcctttgcattcagtagtatgtatcccacattcttaggtttgctgacatc
. . . . .
atctctttgaattaatggcacaattgtttgtggttcattgtctccttaaattagactgta
. . . . .
agcaccttgatggaactcatactaccttttatttcacacacacgcacacgcgcacacaca
. . . . .
gcctacacatacactgccttagctcattgtagcatactaaatactgattttaatgaataag
. . . . .
ctaaaccttcgaaacccatttgctaattcc

```

Exon 12 | Start: 42908 | End: 43080 | Length: 172

. . . . .  
 tattttttcactccctagcttttaaagaaaataaccaacttcaaaaggacatcacataa  
 . . . . .  
 catcaagtctatttgggggaatttgaggatttttccctcactaacatcatttggaata  
 . . . . .  
 atttcatgggcattaattgcatgaatgtggttagattaaaagggtgttcagctagaacttg  
 . . . . .  
 tagttccatactaggtgatttcaattcctgtgctaaaattaatttgtatgatataatttc  
 . . . . .  
 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  
 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  
 . . . . .  
 tgttggccaaacactgatatcttaagcaaaattctttccttcccctttatctccttctga  
 . . . . .  
 agagtaaggacctagctccaacattttatgatccttgctcagcacatgggtaattatgga  
 . . . . .  
 gccttggttcttgtccctgctcacaactaatataaccagtcagagggaccaaggcagtca  
 . . . . .  
 ttcattgtgtcatctgagtacctacaacaagtagatgctatggggagcccatggaagata  
 . . . . .  
 catggtataacaacatagctcttgctctattggaagctaagtggaatggggaga

Exon 13 | Start: 48869 | End: 48996 | Length: 127

```
. . . . .
tcaggccaaggaatatagatttttttttcagccttgtctcagctgggtgtccttattt

. . . . .
actctgtcttaaagtgttccttttattatcattattatttttaatacattgaattccatt

. . . . .
tgggtgctagcatctgtctgttgcatgcttggtgtttataaaattctgcctgatatacttg

. . . . .
tttaaaaaccaatttgtgtatcatagattgatgcttttgaaaaaatcagtattctaacc

. . . . .
tgaattatcactatcagaacaaagcagtaaagtagatttgttttctcattccatttaaag

|4361      |4371      |4381      |4391      |4401      |4411
CAGTATTAAC TTACAGAAAAGTAGTGAATACCTATAAGCCAGAATCCAGAAGGCCTTT
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
TGGAAGGtaagaacatcaatgtaaagatgctgtggtatctgacatctttatttatatt
E R

. . . . .
gaactctgattgttaatttttttcaccatactttctccagttttttgcatacaggcattt

. . . . .
atacacttttattgctctaggatacttcttttgtttaatcctatataggttttttgaacc

. . . . .
tataacataagctacaacatgagaaatgtgcggttagatagatatgtcccttctgaaggt
```

. . . . .  
cagaaaaaatataatggaggtaaaacctgaacaagcttggaactgatggtagacttct  
. . .  
tcaaggc

Exon 14 | Start: 50962 | End: 51153 | Length: 191

. . . . .  
agcctcccgagtagctgagattacaggcgccagccaccacaccagctactgacctgctt  
. . . . .  
ttaaacagctgggagatatggtgcctcagaccaaccaaccccatgttatatgtcaaccc  
. . . . .  
tgacatatggcaggcaacatgaatccagacttctaggctgtcttgctgggctcttttttg  
. . . . .  
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
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
GGAGCAACAGCTGGAAGAGTCTGGGCCACACGATTTGACGGAACATCTTACTTGCCAAG					
E Q Q L E E S G P H D L T E T S Y L P R					
	1541			1551	

4671	. . . . .
GCAAGATCTAG	gtaatatctcatctgctgtattggaacaaacactttgattttactctga
Q D L E	

. . . . .  
 atcctacataaagatattctggttaaccaacttttagatgtactagtctatcatggacac  
 . . . . .  
 ttttgttatacttaattaagccacttttagaaaaatagctcaagtgtaatacaaggttta  
 . . . . .  
 cttgaaaattattgaaactgttaatccatctatattttaattaatggtttaactaatgat  
 . . . . .  
 tttgaggatgagggagtcttggtgtactctaaatgtattatttcaggccaggcatagtgg  
 . . . . .  
 ctcacgcctgt

Exon 15 | Start: 54245 | End: 54556 | Length: 311

. . . . .  
 tctaaaattatactattcctatgactaaacctttgcatatatcttttatctccctaggat  
 . . . . .  
 atatttctaaaactagcattgttgactgaaagtgtaaatacgtgttaagggtgttgctac  
 . . . . .  
 ataatgccatatttccttttaggaaactaagctactttggatttcaccaaacactgtat  
 . . . . .  
 tcatgtaccatttttctcttaacctatttattgggtctttttaattcttaacagagac  
 . . . . .  
 cagaactttgtaattcaacattcatcgttgtgtaaattaaacttctccattcctttcag

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  
 CATTGAAAGTTCCCAATTGAAAGTTGCAGAATCTGCCAGAGTCCAGCTGCTGCTCATA  
   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  
 CAGAAGAATTTgtgagtgtatccatatgtatctccctaagtactaagacttaacaacatt  
   E  E  F  
       |1661

. . . . .  
 ctggaaagagttttatgtaggtattgtcaattaataacctagaggaagaaatctagaaa

. . . . .  
 caatcacagttctgtgtaatttaatttcgattactaatttctgaaaatttagatctagat

. . . . .  
 aaagctatagtggtgattatatttatgtatatttacttgagaaaataattattaaatatta

. . . . .  
 gtggaaaagctatactttgggtatgatataggactttcgaattggaattttcctttctat

. . .  
 ctgtaaaagca

Exon 16 | Start: 57788 | End: 57876 | Length: 88

. . . . .  
 gagacttcaggtgtccttagaattttttaaatgtaccctttctgagaaaaacagagactta

. . . . .

aagctaggataactgggtatttctatttttttttttttttttttttttacctccagcctgggt  
.  
gacagagcaagactctgtctaaaaaaaaaaaaaaaaaattcactttaaatagttccagg  
.  
acacgtgtagaacgtgcaggattgctacataggtaaacatatgccatgggtggaataacta  
.  
gtattctgagctgtgtgctagaggtaactcatgataatggaatatttgatttaatttcag  
  
|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  
.  
gggtgaaaccccgctcttactaaaaataaaaaattagctgggtgtggtcgcgtgcgcct  
.  
gtagtcccagctactcgtgaggctgaggcaggagaatcacttgaaccggggagatggagg  
.  
ttgcagtgagccgagatcatgccactgc

Exon 17 | Start: 61532 | End: 61610 | Length: 78  
BE AWARE: This section overlaps with the following exon

.  
tataatggagatctatagctagccttggcgtctagaagatgggtgttgagaagagggagt

. . . . .  
 ggacagatatttcctctggtcttaacttcatatcagcctcccctagacttccaaatatcc  
 . . . . .  
 atacctgctgggttataaattagtggtgttttcagcctctgattctgtcaccaggggtttta  
 . . . . .  
 gaatcataaatccagattgatcttgggagtgtaaaaaactgaggctctttagcttcttag  
 . . . . .  
 gacagcacttcctgattttgttttcaacttctaatacctttgagtgtttttcattctgcag  
 |5081 |5091 |5101 |5111 |5121 |5131  
 ATGCTGAGTTTGTGTGAACGGACACTGAAATATTTTCTAGGAATTGCGGGAGGAAAAT  
 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  
 . . . . .  
 agaattgcatttttacacctaacgtttaacacctaagggttttgctgatgctgagcttga  
 . . . . .  
 gttaccaaagggtctttaattgtaataactaaactacttttatctttaatatcactttgtt  
 . . . . .  
 cagataagctgggtgatgctgggaaaatgggtctcttttataactaataggacctaactctg  
 . . . . .  
 ctccctagcaatgtagcatatgagctagggtatttatttaatatgtaggcaggaatccatgt  
 . . . . .  
 gcagcaggcaaacttata

Exon 18 | Start: 62110 | End: 62151 | Length: 41

. . . . .  
 ataactaataggacctaactctgctcctagcaatgtagcatatgagctagggtatttattt



. . . . .  
 aatagtcggcaggaatccatgtgcagcaggcaaacttataatgtttaaattaaacatcaa  
 . . . . .  
 ctctgtctccagaaggaaactgctgctacaagccttattaaagggtgtggcttttagagg  
 . . . . .  
 gaaggacctctcctctgtcattcttctgtgctcttttgtgaatcgctgacctctctatc  
 . . . . .  
 tccgtgaaaagagcacgttcttctgctgtatgtaacctgtcttttctatgatctctttag  
 . . . . .  
 |5161 |5171 |5181 |5191 . . .  
 GGGTGACCCAGTCTATTAAAGAAAGAAAAATGCTGAATGAGgtaagtacttgatgttaca  
 V T Q S I K E R K M L N E  
 |1721 |1731  
 . . . . .  
 aactaaccagagatattcattcagtcatatagttaaaaatgtatttgcttccttccatca  
 . . . . .  
 atgcaccactttccttaacaatgcacaaattttccatgataatgaggatcatcaagaatt  
 . . . . .  
 atgcaggcctgcactgtggctcatacctataatcccagcgctttgggaggctgaggcgct  
 . . . . .  
 tggatcacctgatgtcgggagttcaagaccagcctgaccaacatggagaaaccccgtttc  
 . . . . .  
 tactaaaaatacaaaaattagccgggcttggtggcacttgcc

Exon 19 | Start: 68348 | End: 68432 | Length: 84

. . . . .  
 gcattcaaaagattctcctgcctcagcctcccaagtagctgggattacagggtgcctgcca  
 . . . . .  
 ccacgcccaactaattttttgtatttttagtagagatgaggtttcacatgttggtcaga  
 . . . . .  
 ctggtgtcgaactcctgacctcaagtgatctgcctgcctcagtcctcccaaagtgctagga

. . . . .  
 ttacaggggtgagccactgcgccctggcctgaatgccttaaataatgacgtgtctgctccac  
 . . . . .  
 ttccattgaaggaagcttctctttctcttatcctgatgggttggtttggtttctttcag  
 |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  
 . . . . .  
 cccaccactctgtattccactcccctttgcagagatgggccgcttcattttgtaagactt  
 . . . . .  
 attacatacacacagtgctagatactttcacacaggttcttttttctactcttccatcc  
 . . . . .  
 caaccacataaataagtattgtctctactttatgaatgataaaactaagagatttagaga  
 . . . . .  
 ggctgtgtaatttgattcccgtctcgggttcagatcttagctgataagtggaagagctg  
 . . . . .  
 ggactttaagcagatgagaatcta

Exon 20 | Start: 74366 | End: 74421 | Length: 55

. . . . .  
 cttggcctgattggtgacaaaagtgagatgctcagtccttgaatgacaaagaatgcctgt  
 . . . . .  
 agagtgcaggtcaactacatatgcacttcaagaagatcttctgaaatccagtagtgttct  
 . . . . .  
 ggacattggactgcttgtccctgggaagtagcagcagaaatcatcaggtggtgaacagaa

. . . . .  
 gaaaaagaaaagctcttcctttttgaaagtctgttttttgaataaaagccaatattcttt  
  
 . . . . .  
 tataactagattttccttctctccattcccctgtccctctctcttcctctcttcttcag  
  
 |5281 |5291 |5301 |5311 |5321 |5331 .  
 ATCTTCAGGGGGCTAGAAATCTGTTGCTATGGGCCCTTCACCAACATGCCCACAGgtaag  
 I F R G L E I C C Y G P F T N M P T D  
 |1761 |1771  
  
 . . . . .  
 agcctgggagaaccccagagttccagcaccagcctttgtcttacatagtgaggattata  
  
 . . . . .  
 agcaagatcccacgatgggggttcctcagattgctgaaatgttctagaggctattctatt  
  
 . . . . .  
 tctctaccactctccaaacaaaacagcacctaaatgttatcctatggcaaaaaaaaacta  
  
 . . . . .  
 taccttgcccccttctcaagagcatgaagggtggttaatagttaggattcagtatgttat  
  
 . . . . .  
 gtgttcagatggcggtgagctgctgttagtgccaacatgttagtgagaaaatc

Exon 21 | Start: 76289 | End: 76363 | Length: 74

. . . . .  
 attaatggaaattagatctttgattttttttctttcaagcattttatttgagagactat  
  
 . . . . .  
 caaaccttataccaagtggccttatggagactgataaccagagtacatggcatatcagtg  
  
 . . . . .  
 gcaaattgacttaaaatccatacccctactattttaagaccattgtcctttggagcagag  
  
 . . . . .  
 agacagactctccattgagaggtcttgctataagccttcacccggagagtgtagggttag  
  
 . . . . .

agggcctgggttaagtatgcagattactgcagtgattttacatctaaatgtccatttttag

          |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  
  
.      .      .      .      .      .      .      .  
gagaactgcacatattaaatatactgagggaagactttttccctctaactctttttccca  
  
.      .      .      .      .      .      .      .  
tatgtccctccccctcctctctgtgactgcccagcatactgtgtttcaacaaatcatca  
  
.      .      .  
agaaatgatgggct

Exon 22 | Start: 77780 | End: 77841 | Length: 61

.      .      .      .      .      .      .      .  
ccaggagtttgagaccagcctgggcaacatggcaaaaccctgtctctacaaaaatacaa  
  
.      .      .      .      .      .      .      .  
aaaaattagccaggggtggtgtacgtgtctgtagttccagctacttaggaggctgagat  
  
.      .      .      .      .      .      .      .  
ggaaggattgcttgagcccaggaggcagaggtggcagtgagctgagatcacaccactgca  
  
.      .      .      .      .      .      .      .  
ctccagcctgggtgacagagcaagaccctgtctcaaaaacaaacaaaaaaatgatgaag  
  
.      .      .      .      .      .      .      .

tgacagttccagtagtcctactttgacactttgaaatgctctttccttcctggggatccag

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

. . . . .  
Ggtaaggtgcctgcatgtacctgtgctatatggggtccttttgcattgggtttggtttatc  
A

. . . . .  
actcattacctggtgcttgagtagcacagttcttggcacattttaaatatttgttgaatg

. . . . .  
aatggctaaaatgtctttttgatgtttttattgttatttgttttatattgtaaaagtaat

. . . . .  
acatgaactgtttccatgggggtgggagtaagatatgaatgttcacacaaaaacataaat

. . . . .  
caaggccgggcatggtggctcatgcctataattccagcactttgggaggtcaagatggag

.  
g

Exon 23 | Start: 79681 | End: 81189 | Length: 1508

. . . . .  
taaaaatacaaaaattagctgggtgtgatggcatgtgcctgtaattccagctactcagga

. . . . .  
ggcagagacaggagaattgcttgaaccaggaggcggaggttgaatgagccgagattgcg

. . . . .  
ccatcacactctagcctcggcgacagagcaagactccgtctcaaaaaaaaaaaaaaaaaa

. . . . .  
ttagcttctacctcattaatcctaagaactcatacaaccaggaccctggagtcgattgat

. . . . .

tagagcctagtcaggagaatgaattgacactaatctctgcttggttctctgtctccag

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														
CACTCTACCAAGTGGCAGGAGCTGGACACCTACCTGATACCCAGATCCCCACAGCCACT																			
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
GGCTTGGCCTCAAGAGAATAGCTGGTTTCCCTAAGTTTACTTCTCTAAAACCCTGTGTTC					

+421	+431	+441	+451	+461	+471
ACAAAGGCAGAGAGTCAGACCCTTCAATGGAAGGAGAGTGCTTGGGATCGATTATGTGAC					

+481	+491	+501	+511	+521	+531
TTAAAGTCAGAATAGTCCTTGGGCAGTTCTCAATGTTGGAGTGGAACATTGGGGAGGAA					

+541	+551	+561	+571	+581	+591
ATTCTGAGGCAGGTATTAGAAATGAAAAGGAACTTGAAACCTGGGCATGGTGGCTCACG					

+601	+611	+621	+631	+641	+651
CCTGTAATCCCAGCACTTTGGGAGGCCAAGGTGGGCAGATCACTGGAGGTCAGGAGTTTCG					

+661	+671	+681	+691	+701	+711
AAACCAGCCTGGCCAACATGGTGAAACCCCATCTCTACTAAAAATACAGAAATTAGCCGG					
+721	+731	+741	+751	+761	+771
TCATGGTGGTGGACACCTGTAATCCCAGCTACTCAGGTGGCTAAGGCAGGAGAATCACTT					
+781	+791	+801	+811	+821	+831
CAGCCCGGAGGTGGAGGTTGCAGTGAGCCAAGATCATACCACGGCACTCCAGCCTGGGT					
+841	+851	+861	+871	+881	+891
GACAGTGAGACTGTGGCTCAAAAAAAAAAAAAAAAAAGGAAAATGAACTAGAGAGAT					
+901	+911	+921	+931	+941	+951
TTCTAAAAGTCTGAGATATATTTGCTAGATTTCTAAAGAATGTGTTCTAAACAGCAGAA					
+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
GTTGGAAGGACTAGGTCTTCCCTAGCCCCCAGTGTGCAAGGGCAGTGAAGACTTGATT					
+1321	+1331	+1341	+1351	+1361	+1371
GTACAAAATACGTTTTGTAAATGTTGTGCTGTAACTGCAAATAAACTTGGTAGCAAA					
+1381					
CACTTCCA					

GBK Parser: Version: 0.2, Version Date: 11/02/2015  
 Reader: Version: 0.2, Version Date: 11/02/2015  
 Writer: Version: 0.2, Version Date: 11/02/2015  
 Control: Version: 0.2, Version Date: 11/02/2015