

Gene: MYH7 - Sequence: NG_007884.1
Date : January 9, 2015

Exon 1 | Start: 1 | End: 42 | Length: 41

ctcctgccagctgtggaatgtgaggcctggcctgggagatatttttgctgcactttgagc
caccgcccccctggaactcagaccctgcacagtcctatgccataacaatgacgaccactt
ccaattgtttcctagctggagaggcggggaggggagcactgtttgggaagggggggagcc
tgggggaaatgcttctagtgacaacagcccttctaaatccggctagggactgggtgccg
ttgggggtgggggtgccctgctgccccatatatacagcccctgagaccaggtctggctcc
|-99 |-89 |-79 |-69
CACAGCTCTGCTCTGCTGTGTCTTTCCCTGCTGCTCTCAGgtaggagcgggagctgga
ggctttactctgggataaaggggctccaggcttaggaagggattcctcttggaatagcaa
gcttcatgcaggacttcatgcagagtaccaggctccagtcactgggcacacatgtgcaggt
ctaaacatgggcgtatgtgccacaggagttcctaggggaagatatctgcatctgagcata
tgggaccaatatgcattacagggtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtggac
aagcctgcatagtctgaatgtgagaaagggtatgtacctcac

Exon 2 | Start: 43 | End: 98 | Length: 55

atggctcaaagaaaggtaccactagatgggtacaggcaggggtgggaccatctcgagga
gtgaagaggattagggttcaggttgagttgacaccaggaagctgttagaactagttcttg
aggaaaaagggaatagggtttgaaaaacaagaaggatgggaccagagaagctgaccaccc
tttcaccttgttttggaagagggtggatgctgaagaacagagccagggagaagcaggaa
ggtagggactggtcaggttgggcacagcctgccctgacacagcctcttcctctctccagg
|-59 |-49 |-39 |-29 |-19 |-9

GTCCCCTGCAGGCCTTGGCCCTTTCCTCATCTGTAGACACACTTGAGTAGCCCAGgtaa
gaaaagctgaagctagagtgttgaaaatctagtaagactgggcattagagcccccagcc
agcctatggaactctagtttctgccatgtgctggagagaatatcttggtatcaagagct
acttacctgtgaccaggggggtccagggatagatgagggtcagagatggaaatagttagat
ttctgctcctacaggagctcagaatgctcttccttcccctaggagagccccagcttgaa
caatagttagttgttcctttaccctggcaggtttgctaggctgctcctctggtta

Exon 3 | Start: 99 | End: 307 | Length: 208

gatgagggtcagagatggaaatagttagatttctgctcctacaggagctcagaatgctc
ttccttcccctaggagagccccagcttgaacaatagttagttgttcctttaccctggca
ggtttgctaggctgctcctctggttaaggggtaacctcaaagaggaagggactcactggt
aactcctcttgactcttgagcatgggtgctagggttttggggctcccactgaaggggagagc
ccaggggaggggaagggaagaatgggcagatgggaggggcagccagcttctgctcactccagg

1	11	21	31	41	51
GCACAGCCATGGGAGATT	CGGAGATGGCAGTCTT	TGGGGCTGCCGCCCC	TACCTGCGCA		
M	G	D	S	E	M
		A	V	F	G
				A	A
				P	Y
				L	R
				K	
1			11		

61	71	81	91	101	111
AGTCAGAGAAGGAGCGGCT	AGAAGCGCAGACCAGGCCT	TTTGACCTCAAGAAGGATGTCT			
S	E	K	E	R	L
		A	Q	T	R
		P	F	D	L
				K	K
				D	V
				F	
21			31		

121	131	141	151	161	171
TCGTGCCTGATGACAAACAGGAGTT	TGTCAAGGCCAAGATCGTGTCTCGAGAGGGTGGCA				
V	P	D	D	K	Q
		E	F	V	K
		A	K	I	V
			S	R	E
			G	G	K
41			51		

181	191	201
AAGTCACTGCCGAGACCGAGTATGGCAAG	gtgggtgtcaggctgatgtgagagtccaccc	
V	T	A
	E	T
	E	Y
	G	K
61		

tggccacctgtacacctgggtggacagagaggggtacacccatgccccatgccccatgcag
acctgaggatgggtccattctccttccctttggggaagaatccagaccctccaaagagcc
ctctccttcccaatatcccttctgtcttcctgtgagatcctgggttccttctctcttgag
cactattgccctgtcactcaccaactcctaaccctcttgaggaaggagggaagcccagg
ctgacaggagggttggtgggggtctctt

Exon 4 | Start: 308 | End: 451 | Length: 143

tgtcaggctgatgtgagagtccaccctggccacctgtacacctgggtggacagagagggg
tacacccatgccccatgccccatgcagacctgaggatgggtccattctccttccctttggg
gaagaatccagaccctccaaagagccctctccttcccaatatcccttctgtcttcctgt
gagatcctgggttccttctctcttgagcactattgccctgtcactcaccaactcctaacc
tcttgaggaaggagggaagcccaggctgacaggagggttggtgggggtctcttcaga

211	221	231	241	251	261
ACAGTGACCGTGAAGGAGGACCAGGTGATGCAGCAGAACCCACCAAGTTCGACAAAAATC					
T V T V K E D Q V M Q Q N P P K F D K I					
71			81		

271	281	291	301	311	321
GAGGACATGGCCATGCTGACCTTCCTGCATGAGCCGCGGTGCTCTACAACTCAAGGAT					
E D M A M L T F L H E P A V L Y N L K D					
91			101		

331	341
CGCTACGGCTCCTGGATGATCTACGtgagtgctgcacctggccctacgttgggatctctg	
R Y G S W M I Y	
111	

ttcttgctccatccatgtccaccccaggagccaagagtgtcttctgtttgtgtctaggca
gggttacactctaacctcgtcccaacatccttgggttaattccaacactctggggactgg
cattactcagattgagtgcatgcagaggttttctttctcttcttctctcctgggatct

ttctatccccagacctactcgggc

Exon 5 | Start: 452 | End: 608 | Length: 156

ggatgatctacgtgagtgctgcacctggccctacgttgggatctctgttcttgctccatc

catgtccaccccaggagccaagagtgtcttctgtttgtgtctaggcagggttacactcta

acctcgtcccaacatccttggttcaattccaacactctggggactggcattactcagatt

gagtgcattgcagaggttttctttctttctttctctctgggatctttctctaactccc

aaaatcaccagccctcccccttcgcaactggcaagtcactgctccttttctatcccaga

ACCTACTCGGGCCTTCTGTGTCACCGTCAACCCTTACAAGTGCGCTGCCGGTGTACACT
T Y S G L F C V T V N P Y K W L P V Y T

|411|421|431|441|451|461
 CCTGAGGTGGTGGCTGCTACCGGGGCAAGAAGAGGAGCGAGGCCCGCCACATCTTC
 P E V V A A Y R G K K R S E A P P H I F
 |141|151

|471 |481 |491 |501
 TCCATCTCCGACAACGCTATCAGTACATGCTGACAGgtgagaggccctggaagggtctt
 S I S D N A Y Q Y M L T D
 |161

cctgaaggggaactgggataggccgggaggggagaggggagaaggaaggggagaagccccacga

gagcatcctgtgcagctcctgacctttcctccccaccctctccccacagacagagaaaac

cagtccatcctgatcacgtgagtgtagctgctactgtattccctttcagaatctccctga

tcccagcctccagcccatcaggtgtcccaggcccgaggcatagactcagcctctttcc

ccccaacctcgtgcccatctccttcttctctgaccat

Exon 6 | Start: 609 | End: 636 | Length: 27

ctatccccagacctactcgggcctcttctgtgtcacctcaacccttacaagtggctgcc
gggtgtacactcctgaggtgggtggctgcctaccggggcaagaagaggagcgaggccccgcc
ccacatcttctccatctccgacaacgcctatcagtacatgctgacaggtgagaggccctg
gaagggtcttcctgaagggaactgggataggccgggaggagaggagagaaggaagggaga
agccccacgagagcatcctgtgcagctcctgacctttcctccccaccctctccccacaga

 |511 |521
ACAGAGAAAACAGTCCATCCTGATCACgtgagtgtagctgctactgtattccctttcag
R E N Q S I L I T
 |171

aatctccctgatcccagcctccagccccatcaggtgtcccaggccccgaggcatagactc
agcctctttcccccaacctcgtgcccatctccttcttctctgaccattaccctgacccc
tctctttgctctccctcttcctttctgctttccatccccttcatgtttttcctctccac
ctccttcacccactctccaactcatcacgcgtttatccagaagctcattatcgccatgtc
ttcacctctgcattttctttcccttcag

Exon 7 | Start: 637 | End: 745 | Length: 108

cattcttcagccctaccaacttttccaaaacagcccaggcccatctcccctgtttact
ttgcccagccaagcacaggctcagcctgcccaccagtgcccttctgggtggcatccttcc
tggtgccagccctgacctctgtgcatcagaagacagttgtggattttgggtgtagataac
ctggcagcttcttgcccagggtcctactctcgggtaggcccaggcattctctcctgatt
tgaggcttgctggtctccagtagtattgttcactgccaataagcccctgtcttcacagc

|531 |541 |551 |561 |571 |581
CGGAGAATCCGGAGCAGGGAAGACAGTCAACACCAAGAGGGTCATCCAGTACTTTGCTGT

G E S G A G K T V N T K R V I Q Y F A V
|181 |191

|591 |601 |611 |621 |631
TATTGCAGCCATTGGGGACCGCAGCAAGAAGGACCAGAGCCCGGGCAAGgtaggcctgct
I A A I G D R S K K D Q S P G K
|201 |211

gccctccaaggtcctgtaccgcagaaagggaggaggagaagagctctcacctgcctccttct
tggcctctgcagggcacccctggaggaccagatcatccaggccaaccctgctctggaggcc
tttggcaatgccaagaccgtccggaacgacaactcctcccgcttcgtgagtggctcctga
ccttggccttgggacttggactggtggaggaatggtctcagatatgagccttccccaac
tcatcaccactctcttccatctctccaggggaaattcattcgaattcat

Exon 8 | Start: 746 | End: 838 | Length: 92

tgccagggctcctactctcgggtagggcccaggcattctctcctgatttgaggcttgctg
gtctccagtagtattgttcaactgccaataagcccctgtcttcacagcggagaatccgga
gcagggaagacagtcaacaccaagagggtcatccagtactttgctgttattgcagccatt
ggggaccgcagcaagaaggaccagagcccgggcaaggtaggcctgctgcctccaaggtc
ctgtaccgcagaaagggaggaggagaagagctctcacctgcctccttcttggcctctgcagg

|641 |651 |661 |671 |681 |691
GGCACCCCTGGAGGACCAGATCATCCAGGCCAACCCCTGCTCTGGAGGCCTTTGGCAATGCC
G T L E D Q I I Q A N P A L E A F G N A
|221 |231

|701 |711 |721 |731
AAGACCGTCCGGAACGACAACCTCCTCCCGCTTCgtgagtggctcctgaccttggccttgg
K T V R N D N S S R F
|241

gacttggactggtggaggaatggtctcagatatgagccttccccaaactcatcaccactc
tcttccatctctccaggggaaattcattcgaattcattttggggcaacaggaaagttggc

Exon 9 | Start: 839 | End: 902 | Length: 63

|741 |751 |761 |771 |781 |791
GGGAAATTCATTCTGAATTCATTTTGGGGCAACAGGAAAGTTGGCATCTGCAGACATAGAG
G K F I R I H F G A T G K L A S A D I E
 |251 |261

tggctcttgacctctctctctctccccctccctccctctgtttttctcctctttaagtctct
gtctgtaggtgtctctgtcttcagggtctacatatctgtctctctctgagacttcctctgc
atctttctccatttctgtctctgcatggctaggtgtctttctctgggatttctctctgag
actatttctctccttctgggtctctgtttccatctctctgtgtgatctcttgtgtctgt
ccaa

7

tgtagggtgtctctgtcttcaggctacatatctgtctctctctgagacttcctctgcatc
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 atttctctccttctgggtctctgtttccatctctctgtgtgatctctttgtgtctgtcca
 actagtctctctggctcttccttccctctgccttttgcttgctacatttatcattaatt
 ttccttgtgcccaaaccctaacttttctttctctccttcttctctccacactgttcacaga

801	811	821	831	841	851
ATCTTCTGAAAAATCCAGAGTTATTTCCAGCTGAAAGCAGAGAGAGATTATCACATTT					
L L E K S R V I F Q L K A E R D Y H I F					
	271			281	

861	871	881	891
TCTACCAAATCCTGTCTAACAAAAAGCCTGAGCTGCTGGgtgagtcagagccaccgactg			
Y Q I L S N K K P E L L D			
	291		

agaccaactatctccatggcaacctgggtcccctctgcttgtggctggactcagctggcat
 gccctgggtttcatggcactgctggattcaattcagtgggatgtggggccaagccaagcc
 ctgtcctgtgctcttcctcaggccatgtgctgtggcgagcagcctccatgagagccgggg
 gcttgtgtcccaccctaaccatgttttttcccctagacatgctgctgatcaccaacaacc
 cctacgattatgcattcatctccaaggagagaccaccg

Exon 11 | Start: 1002 | End: 1105 | Length: 103

agcagagagagattatcacattttctaccaaatacctgtctaacaaaaagcctgagctgct
 ggggtgagtcagagccaccgactgagaccaactatctccatggcaacctgggtcccctctgc
 ttgtggctggactcagctggcatgccctgggtttcatggcactgctggattcaattcagt
 ggggatgtggggccaagccaagccctgtcctgtgctcttcctcaggccatgtgctgtggcg
 agcagcctccatgagagccgggggcttgtgtcccaccctaaccatgttttttcccctaga

901	911	921	931	941	951
ACATGCTGCTGATCACCAACAACCCCTACGATTATGCATTTCATCTCCCAAGGAGAGACCA					
M	L	I	T	N	N
	P	Y	D	Y	A
				F	I
				S	Q
				G	E
				T	T
301			311		

961	971	981	991
CCGTGGCCTCCATTGATGACGCTGAGGAGCTCATGGCCACTGATgtgagtggtgaggac			
V	A	S	I
	D	D	A
	E	E	L
	M	A	T
	D		
321		331	

ccagccagggggtgggaggattggcagtgaggggcaaacaggggtccaaaagcagagcta
agacgctggccattggttgtttaaagtggatggacctcctgagagccagaatgtgcctt
gtgatcaggggtgtactggggaatggatgaggtgagacaggactggccagtatctggtgtt
ctatcaaaccaggaagagctgaaagccatgagacagagagacacacaagccaagaaacaa
gcatcaccgaggagcaggacgaggagggaaggccatgcagacg

Exon 12 | Start: 1106 | End: 1244 | Length: 138

gaaggccaggcaggaagcaagtgtagggccaggaagcataagtgggtaactcagaaaagc
tgtggccactgacactggggctgcgccaactgacgtctgctctgctcttgcacattaca
tcctttgttttgagttccctgcatcttacatcctttgttttgagctccccactgggta
tgggagtctcagaaccacagggattaaggagacaagttttctctccaacttacaaggga
tctcacttaccatcatacttctttttctgggggtccgccaatatggggcctccctacaga

1001	1011	1021	1031	1041	1051
AACGCTTTTGATGTGCTGGGCTTCACTTCAGAGGAGAAAACTCCATGTATAAGCTGACA					
N	A	F	D	V	L
		G	F	T	S
			E	E	K
			N	S	M
				Y	K
				L	T
		341		351	

1061	1071	1081	1091	1101	1111
GGCGCCATCATGCACTTTGGAACATGAAGTTCAAGCTGAAGCAGCGGGAGGAGCAGGCG					
G	A	I	M	H	F
		G	N	M	K
			F	K	L
				Q	R
				E	E
				Q	A
		361		371	

1121	1131
------	------

[illegible]

tggagcgcagtggtgacgatcttggctcactgccacctccacatcctgggttcaagtgatt
ctctgcctcagcctcccgagtagctggaattacaggcatgcaccaccatgcctggctaa
tttttgtatttttagtagagatgggggttcatcatgttggccaggttggtctcaaactcc
tgacctcaagtgatccgcctgccttggcctcccaaagtgtgggattacaggcatgaacc
accacacctggccagcagtcatctctttaccaactttgctacttgccttttcttccaga

|1201 |1211 |1221 |1231 |1241 |1251
GCCACCCTCGGGTGAAAGTGGGCAATGAGTACGTACCAAGGGGCAGAATGTCCAGCAGg
H P R V K V G N E Y V T K G Q N V Q Q
|401 |411

10

gtcctggacatcgctggccttcgagatcttcgatgtgagttgggacccctgggagtgga

Exon 14 | Start: 1364 | End: 1513 | Length: 149

acacctggccagcagtcacatctctttaccaactttgctacttgccctttccttcagaggc
tgacaagctctgcctacatcatggggctgaactcagccgacctgctcaaggggctgtgcca
ccctcgggtgaaagtgggcaatgagtacgtcaccaaggggcagaatgtccagcaggtggg
tccatcttcagatgataatgggtgggcagggtagggagactggcatggtgggatgagagt
tttcaagttcactcttcccaacaaccctgctcaatatgggtctctcctccaccttgagg

1261	1271	1281	1291	1301	1311
GTGATATATGCCACTGGGGCACTGGCCAAGGCAGTGTATGAGAGGATGTTCAACTGGATG					
V I Y A T G A L A K A V Y E R M F N W M					
421			431		

1321	1331	1341	1351	1361	1371
GTGACGCGCATCAATGCCACCCTGGAGACCAAGCAGCCACGCCAGTACTTCATAGGAGTC					
V T R I N A T L E T K Q P R Q Y F I G V					
441			451		

1381	1391	1401
CTGGACATCGCTGGCTTCGAGATCTTCGATgtgagttgggacccctgggagtgaggagaac		
L D I A G F E I F D		
461		

aatcactcactcgctcccacattcaacagctatattgcttagagccagctgtggaccagac
atgggaaggcagtgaggactgtgtggtgacagaggcagtcattttctctgtcttcagggg
aagccctccttcactgccttgacatggaggggaccagccacgacctgctgggctcaggca
cagtggaaggcacagcccaatggccactcacaccactttctgactgctcccacct
catgccccctgcagttcaacagctttgagc

Exon 15 | Start: 1514 | End: 1684 | Length: 170

ttcagatcttcgatgtgagttgggacccctgggagtgggagaacaatcactcactcgct
cccacattcaacagctatattgcttagagccagctgtggaccagacatgggaaggcagtg
ggactgtgtggtgacagaggcagtcattttctctgtcttcagggaagccctccttact
gccttgacatggaggggaccagccacgccctgctgggctcaggcacagtggacgggcaca
gccccaatggccactcacaccactttctgactgctccaccctcatgccccctgcagt

1411	1421	1431	1441	1451	1461
TTCAACAGCTTTGAGCAGCTCTGCATCAACTTACCAACGAGAAGCTGCAGCAGTTCTTC					
F N S F E Q L C I N F T N E K L Q Q F F					
471			481		

1471	1481	1491	1501	1511	1521
AACCACCACATGTTTGTGCTGGAGCAGGAGGAGTACAAGAAGGAGGGCATCGAGTGGACA					
N H H M F V L E Q E E Y K K E G I E W T					
491			501		

1531	1541	1551	1561	1571
TTCATTGACTTTGGCATGGACCTGCAGGCCTGCATTGACCTCATCGAGAAGgtgcctctt				
F I D F G M D L Q A C I D L I E K				
511			521	

tggccttaccacctgaattctccctgcacaccaacaagaacaccatagacaaaatagca
gcccctctcccttctggggaatataaaaatagaaggggctgaaggatccgagcccttggt
tccagagcctatgttgctgagcaccaggacagggtggcaccaggacagctgatttc
ccaggggcttgaaagtggacacatggaggatgggcacctgcatgatgacctccacacct
gcatgtttattgggcctgggttatgcatccaaggatcaggaagtgtgaggg

Exon 16 | Start: 1685 | End: 1994 | Length: 309

aggggatcataagagtgcacctattttcaaccctagcatctcaggcatctgggtcgtgga
gtggtgtgtacagcatcgatagaatccatattcccagactttcacaaggtccttctgtc

Exon 17 | Start: 1995 | End: 2062 | Length: 67

aactatgctggggctgatgcgcgtaagtagggactgaggctcccggtacagaggagcagg
gattctgccaaggttctgagccagggtcaattgctacacccaccacttcaatgtcaggtt
gtacccaaggtttacagactcagtgggatggaactgggtgaagaaactgaggcagccac
attgaaggccctcaccaggggccaatgccagcaaggatgtaaagaggggctgtgattc
tttactcacaccctacctccccacactgatgcttcttttgttgactctccttctgcagc

1891	1901	1911	1921	1931	1941
CTATTGAGAAGGGCAAAGGCAAGGCAAGAAAGGCTCGTCCTTTCAGACTGTGTCAGCTC					
I E K G K G K A K K G S S F Q T V S A L					
631			641		

1951
TGCACAGGgtgagtgggacacagccccagccaacttggctccccatctgccaacccac
H R
651

ccagccccacccttccctgccttgtcatcccctactcctccggttccctgtctccttgg
tgcattcgggaccattttcactctgtcttctcttcccgatctcctggcctcttcactt
atttacttcccatctcccttctctcctctttcccttctgtctcccaccctctctccttat
ccctgtctgccccagggccccttcatctctgtgacttctcgaattctctccatctctct
tttccttc

Exon 18 | Start: 2063 | End: 2150 | Length: 87

ttcatcccctactcctcccggttccctgtctccttgggtgcattcgggaccattttcactct
gtcttctcttcccgatctcctggcctcttcacttatttacttcccatctcccttctct
cctctttcccttctgtctcccaccctctctccttatccctgtctgccccagggcccctt

catctctgtgacttctcgaattctctccatctctcttttccttccttctctctctctt

cttcctgcatctctttctggcattttctttacttttctctattgcatttttggccacagg

1961	1971	1981	1991	2001	2011																
GAAAATCTGAACAAGCTGATGACCAACTTGCGCTCCACCCATCCCCACTTTGTACGTTGT																					
E	N	L	N	K	L	M	T	N	L	R	S	T	H	P	H	F	V	R	C		
										661											671

2021	2031	2041								
ATCATCCCTAATGAGACAAAGTCTCCAGgtgaggccacaaactcaggccaaccactgct										
I	I	P	N	E	T	K	S	P	G	
								681		

gggcatacacccgcctgggaacaggacctcctaggacatctccctacctaccaccacagt

ggtttccaaaccacattcttctcctcccatcccgcacatgaggcctcccagggtacctccct

ctcagcgctaccttgcaacttgcaagtgtgtaatgagggtgatgtgtaaggcactctgatgg

acattacctcatcagtgggccctacaaccccttgatagctgggtgtccaagacagaatct

tagttcaactttaatttacctgcagaa

Exon 19 | Start: 2151 | End: 2268 | Length: 117

tgttcttgatcagcttagtgaacttgggccagtcccataacccctctgggcttaatttac

tcatctagaacattggatatatctgttctggctaccacctatgataataggtgtgaatca

tataaaaaaggaatgtgaaagccttttagttaaaaatgtggctagaagaaaatgaaacaa

atgattattactaactgacttgctaagattacaagctaatacagtgacaaagccaggatca

gaaccagaaacttcagtccagtgttctcacagactcctcctacttccttcttgccacagg

2051	2061	2071	2081	2091	2101																
GGGTGATGGACAACCCCTGGTCATGCACCAGCTGCGCTGCAATGGTGTGCTGGAGGGCA																					
V	M	D	N	P	L	V	M	H	Q	L	R	C	N	G	V	L	E	G	I		
										691											701

2111	2121	2131	2141	2151	2161
TCCGCATCTGCAGGAAAGGCTTCCCAACCGCATCCTCTACGGGGACTTCCGGCAGAGgt					

R I C R K G F P N R I L Y G D F R Q R
 |711 |721

gggtatgaggggtgcaccagagctcatagaacagggggagccaggctgccctgatgggaat
 gggatctgcaggtgaccctggaattctatgggcagagcagatcactgcagagcatgggtg
 actctggacacttccctcctcaggtatcgcatcctgaaccagcggccatccctgaggga
 cagttcattgatagcaggaagggggcagagaagctgctcagctccctggacattgatcac
 aaccagtacaagtttggccacaccaaggtgaggaaaggagactaattaattaaaggaa

Exon 20 | Start: 2269 | End: 2392 | Length: 123

ttctcacagactcctcctacttcccttcttgccacaggggtgatggacaacccctgggtca
 tgcaccagctgcgctgcaatggtgtgctggagggcacccgcatctgcaggaaaggcttcc
 ccaaccgcatcctctacggggacttccggcagaggtgggtatgaggggtgcaccagagctc
 atagaacagggggagccaggctgccctgatgggaatgggatctgcaggtgaccctggaat
 tctatgggcagagcagatcactgcagagcatgggtgactctggacacttccctcctcagg

2171	2181	2191	2201	2211	2221
GTATCGCATCCTGAACCCAGCGGCCATCCCTGAGGGACAGTTCATTGATAGCAGGAAGGG					
Y R I L N P A A I P E G Q F I D S R K G					
	731				741

2231	2241	2251	2261	2271	2281
GGCAGAGAAGCTGCTCAGCTCCCTGGACATTGATCACAACCAGTACAAGTTTGGCCACAC					
A E K L L S S L D I D H N Q Y K F G H T					
	751				761

CAAGgtgaggaaaggagactaattaattaaaggaagacatctcttttcattgactcctc
 K

tgatgcttttcctgttgtaatcatcttagcaaaatctcttacctgtatgctaccctccc
 agtggaaacatctagcaccactcccctcatcccagctccagctgccattgacctcctcct

Exon 21 | Start: 2393 | End: 2529 | Length: 136

[illegible]

|2351 |2361 |2371 |2381 |2391 |2401
CGCATCATCACGCGTATCCAGGCCAGTCCCGAGGTGTGCTCGCCAGAATTGGAGTACAAA
R I I T R I Q A Q S R G V L A R M E Y K
|791 |801

ggctggttcaggggcagtgtcaggaaaaaagctcagcagatcttcaaacagagacct
gcaggaggggctcatatgaacacactgcagtcacagggtcagaggcctcaggaagggtgg
gagggatgaaggaaatgggatattcccaaggtttcaggacctcaggtaggaaggaggcag
gaggctcagcactcctttcaatgggccctgcagagactccctgctggtaatccagtgga
acattcgggccttcatg

Exon 22 | Start: 2530 | End: 2785 | Length: 255

tgtgctcgccagaatggagtacaaaaagctgctggaacgtaggtgagagatctcaagagg
aggtttcccgccttctctgaggcccaggctggttcaggggcagtggtcaggaaaaaagctc
agcagatcttcaaacacagagacctgcaggaggggctcatatgaacacactgcagtcaca
gggtcagaggcctcaggaagggtgggagggatgaaggaaatgggatattcccaaggtttc
aggacctcaggtaggaaggaggcaggaggctcagcactcctttcaatgggcccctgcaga

2431	2441	2451	2461	2471	2481
AGACTCCCTGCTGGTAATCCAGTGGAAACATT	CGGGCCTTCATGGGGGTCAAGAATTGGCC				
D S L L V I Q W N I R A F M G V K N W P					
811			821		

2491	2501	2511	2521	2531	2541
CTGGATGAAGCTCTACTTCAAGATCAAGCCGCTGCTGAAGAGTGCAGAAAAGAGAGAAGGA					
W M K L Y F K I K P L L K S A E R E K E					
831			841		

2551	2561	2571	2581	2591	2601
GATGGCCTCCATGAAGGAGGAGTTCACACGCCTCAAAGAGGCGCTAGAGAAGTCCGAGGC					
M A S M K E E F T R L K E A L E K S E A					
851			861		

2611	2621	2631	2641	2651	2661
TCGCCGCAAGGAGCTGGAGGAGAAGATGGTGTCCCTGCTGCAGGAGAAGAATGACCTGCA					
R R K E L E E K M V S L L Q E K N D L Q					
871			881		

2671
GCTCCAAGTGCAGGCGgtgaggctcctgggctactggttggtccttccaccctgctctgcc
L Q V Q A
891

ttcacttcccacaaccctgcacctccctgcacaggggctcactgtcttggttccttcagtc
agaggactctgggatcaacacttctaaagacctcaaagaggtccctcaggaggaggaaa
gggcagagggaaaagagctgacttttaaagcacaggctttctacttgggttcaacctag

atacacagcttaattatTTTgtgaccttgggcagaccatgcatcatctttgagcctcaat
ttcctctagacagga

Exon 23 | Start: 2786 | End: 3028 | Length: 242

aagccatcacataagtgcttggcatcagcaaatgcaattcccacccttcgatggagga
gaccagaggaagaggtccagatgaagatttctggttcctttcctctctgctccccctcccc
agtgttcccaagttatactatcctgaaactcttccccctccccatacttctgaagctcttg
ccaagtggggatatcctagagttaccctcctatttgagtgatgtgcctctccttcctctc
acctgcaagaatgaggaccttaccctcctgaacagcctccccctctgttcctcaccttcagg

2681	2691	2701	2711	2721	2731
GAACAAGACAACCTGGCAGATGCTGAGGAGCGCTGTGATCAGCTGATCAAAAACAAGATT					
E Q D N L A D A E E R C D Q L I K N K I					
	901			911	

2741	2751	2761	2771	2781	2791
CAGCTGGAGGCCAAGGTGAAGGAGATGAACGAGAGGCTGGAGGATGAGGAGGAGATGAAT					
Q L E A K V K E M N E R L E D E E E M N					
	921			931	

2801	2811	2821	2831	2841	2851
GCTGAGCTCACTGCCAAGAAGCGCAAGCTGGAAGATGAGTGCTCAGAGCTCAAAAGGGAC					
A E L T A K K R K L E D E C S E L K R D					
	941			951	

2861	2871	2881	2891	2901	2911
ATCGATGATCTGGAGCTGACACTGGCCAAAGTGGAGAAGGAGAAACACGCAACAGAGAAC					
I D D L E L T L A K V E K E K H A T E N					
	961			971	

|2921
AAGgtaagggcagctccctttggctccagccgggtctcatcaggactctcagaccatac
K

tgaccttgaccaggttagccactcggcatccagagagcagcatggaccttgacatggag

atcaataatagagatgagttttcttatttaatttaagtgcataccatatactctg

Exon 25 | Start: 3206 | End: 3351 | Length: 145

gaaggaaggaaggagagaaagaaaggagagaaagaaagaaagaaagggaaagaaag
aaagaatacggctttggggtttcatcccacagtcatttattcctttatctataaaatatt
gattcagcatcccctatatctaggcaatctcacagtccttaataacatttgcccactc
tggggaaggtttcccaagtcctgaacacaaagatttaccagtcctgaggttaactgaaca
acaaatcaccaagtcaggatgctttgcctcactgggcctggctccttctctctaccagc

3101	3111	3121	3131	3141	3151
CTGGAAGGATCCCTGGAGCAAGAGAAGAAGGTGCGCATGGACCTGGAGCGAGCGAAGCGG					
L E G S L E Q E K K V R M D L E R A K R					
	1041				1051

3161	3171	3181	3191	3201	3211
AAGCTGGAGGGCGACCTGAAGCTGACCCAGGAGAGCATCATGGACCTGGAGAATGACAAG					
K L E G D L K L T Q E S I M D L E N D K					
	1061				1071

3221	3231	3241
CAGCAGCTGGATGAGCGGCTGAAAAgtactgtgtcccctccctgctgcccttcctcctc		
Q Q L D E R L K K		
	1081	

cccagcccataacagtacaagcagaccaagacagccatcctctgaggcaacaacctcac
gcagcctccacaagtggaggcgcaaaccatgggaaaaggcctccaggcaagggtttcc
tcccctagctccagatatcagggttagttagatggtcctccctggcaaaaagtccattgt
atcccatgagtcctttcttctgttaggcactcagtggggaatgaaaataacagccttccc
ccttcatacacatctctctttggaga

Exon 26 | Start: 3352 | End: 3442 | Length: 90

tgaacaatctagtcgacccccctcatTTTtaccattatgagaaaacaaggaccaaagatgg
 gaatgtcctgtagagcccaggcccccatcacctgtctacagcactcctcccattacattc
 ttgttgattttcaatctcaccgcaggtgttacacttccagggatcctacatcacccccag
 aagctgttttttctaataaatacctactctttacctgtatcattaccattttcaaccactg
 gtggaccctcctgaggccccacgagtcctcccttacctcaccatccctccttccccacaga

3251	3261	3271	3281	3291	3301
AAAAGACTTTGAGCTGAATGCTCTCAACGCAAGGATTGAGGATGAACAGGCCCTCGGCAG					
K	D	F	E	L	N
		A	L	N	A
			R	I	E
				D	E
				Q	A
					L
					G
					S
		1091			1101

3311	3321	3331
CCAGCTGCAGAAGAAGCTCAAGGAGCTTCAGgtgaggtctggacaccacgcgggatgct		
Q	L	Q
K	K	L
K	E	L
		Q
		1111

gagtccttgggctggttctgtttccccctgccccctcctctagggtgtcctgttcacagca
 ttacaggaactgattatgtgtccatggaggcaggcacgcagctatcacagtgtgcccatg
 gatacatccaaaaggggtcaggtgatccacagagaccctgaaaaggtcacaggcctggag
 ggcagaattcctggcttctgtctcagctctgccttagttgggtgacctctgggagccca
 ctccagatctctgggtctccatgccctcccc

Exon 27 | Start: 3443 | End: 3832 | Length: 389

acttttgtatttttttatgactaaactgcttaaaatatccccagaacacaggtctcttt
 gtccatctttaagagcaagtttcaaccactttccttccaataaagagcatgtagactgtc
 aggcctcgcctaaaggaaggctcttcaaactatcttccccaaatcctttaattcccacc
 tctccactggaagagctaaactgacttgctgttccagagaagccgagagccttttagagc
 cggggggattccagtggagggtccaggcgggtgggtctgagccctttgtgtctgaccagg

3341	3351	3361	3371	3381	3391
GCACGCATCGAGGAGCTGGAGGAGGAGCTGGAGGCCGAGCGCACCGCCAGGGCTAAGGTG					
A R I E E L E E E L E A E R T A R A K V					
		1121			1131

3401	3411	3421	3431	3441	3451
GAGAAGCTGCGCTCAGACCTGTCTCGGGAGCTGGAGGAGATCAGCGAGCGGCTGGAAGAG					
E K L R S D L S R E L E E I S E R L E E					
		1141			1151

3461	3471	3481	3491	3501	3511
GCCGGCGGGCCACGTCCGTGCAGATCGAGATGAACAAGAAGCGCGAGGCCGAGTTCCAG					
A G G A T S V Q I E M N K K R E A E F Q					
		1161			1171

3521	3531	3541	3551	3561	3571
AAGATGCGGCGGGACCTGGAGGAGGCCACGCTGCAGCACGAGGCCACTGCCGCGGCCCTG					
K M R R D L E E A T L Q H E A T A A A L					
		1181			1191

3581	3591	3601	3611	3621	3631
CGCAAGAAGCACGCCGACAGCGTGGCCGAGCTGGGCGAGCAGATCGACAACCTGCAGCGG					
R K K H A D S V A E L G E Q I D N L Q R					
		1201			1211

3641	3651	3661	3671	3681	3691
GTGAAGCAGAAGCTGGAGAAGGAGAAGAGCGAGTTCAAGCTGGAGCTGGATGACGTCACC					
V K Q K L E K E K S E F K L E L D D V T					
		1221			1231

3701	3711	3721
TCCAACATGGAGCAGATCATCAAGGCCAAGgcaggctctgctcggcctcccctcctccaa		
S N M E Q I I K A K		
	1241	

cttcctcctccacactcccctttctgtccatgtagtgtctcttccttcatggttcat

cccacttcccttcctctgcctggttctcagatcccctccttcttttcacaccttccctct

tcttttctccttcagttgcacctcttacacccttcattcccccgcccccaacatccat

catataactctccttcccttctcaggctaacctggagaagatgtgccggaccttggaaga

ccagatgaatgagcaccggagcaaggcgga

Exon 28 | Start: 3833 | End: 3959 | Length: 126

gagcgagttcaagctggagctggatgacgtcacctccaacatggagcagatcatcaaggc
caaggcaggctctgctcggcctcccctcctccaacttcctcctccacctcccctttctg
tccatgtagtgctcttcttcatgggttcattttccacttccttctctgcctggttc
tcagatcccctccttcttttcacaccttccttcttcttctccttcagttgcacctctt
acacccttcattcccccgcccccaacatccatcatataactctccttccttctcagg

3731	3741	3751	3761	3771	3781
GCTAACCTGGAGAAGATGTGCCGACCTTGGAAGACCAGATGAATGAGCACCGGAGCAAG					
A N L E K M C R	T L E D Q M N E H R S K				
	1251				1261

3791	3801	3811	3821	3831	3841
GCGGAGGAGACCCAGCGTTCTGTCAACGACCTCACCAGCCAGCGGGCCAAGTTGCAAACC					
A E E T Q R S V	N D L T S Q R A K L Q T				
	1271				1281

|3851
GAGAATGgtgagcctagagcaggggctccatgggtcccaccacagtctccccaacctcct
E N G

gagccactccagcctcgggcacaagccaatacacgcacacacagacacagagtctctcca
gaaaatggggcctgagggctagaggaggaggtggggatagagaggagtgtgatctagaa
tggtgcttccccaggtgagctgtcccggcagctggatgagaaggaggcactgatctcca
gctgacccgaggcaagctcacctacaccagcagctggaggacctcaagaggcagctgga
ggaggag

Exon 29 | Start: 3960 | End: 4078 | Length: 118

atgtgccggaccttggaagaccagatgaatgagcaccggagcaaggcggaggagaccag

cgttctgtcaacgacctcaccagccagcgggccaagttgcaaaccgagaatggtgagcct
 agagcaggggctccatgggttcccaccacagtctccccaacctcctgagccactccagcct
 cgggcacaagccaatacacgcacacacagacacagagtctctccagaaaatggggcctga
 gggctagaggaggaggtggggatagagaggagtgctgatctagaatggtgcttccccagg
 |3861 |3871 |3881 |3891 |3901 |3911
 GTGAGCTGTCCCGGCAGCTGGATGAGAAGGAGGCACTGATCTCCAGCTGACCCGAGGCA
 E L S R Q L D E K E A L I S Q L T R G K
 |1291 |1301
 |3921 |3931 |3941 |3951 |3961 |3971
 AGCTCACCTACACCCAGCAGCTGGAGGACCTCAAGAGGCAGCTGGAGGAGGAGTTAAGg
 L T Y T Q Q L E D L K R Q L E E E V K
 |1311 |1321
 taagggctagactcgggccacctggcccaagcaaggagcacactgactagccttgcatca
 aatcacttcccttcccagcaataaggctggctgtggaccaacagtttctccaagaattcta
 aaaagaaatcacagcccaaaccctgccacatgccatctactccccaggctgaggccctct
 gcttctgctgcatccctggacgggaggcagggtgtgagaaggaggagagaaaatgaacta
 gggaggcacgagatggccttgcccgggcacggctaggggatgtagggactgcacaaatg

Exon 30 | Start: 4079 | End: 4275 | Length: 196

cccctaacctttctgagcctgtttccctctcccagccaggtaaaatggcgggtgatgatg
 accatgtctggtgtggggaggagctcagggccaatggccatgaagcttttcttaaatagt
 tcactgctgtattggcattctttgttatcagcaaacagtaaaccatgacaggtccactgg
 gggtttggacatagatgaggccaagggatgatgttgagattggggtgaggagaagggcaa
 ggggtggggttgctttatggagaaagctgaaccacacctcctggtgcccacccctccccagg
 |3981 |3991 |4001 |4011 |4021 |4031
 GCGAAGAACGCCCTGGCCACGCACTGCAGTCGGCCCGGCATGACTGCGACCTGCTGCGG

A K N A L A H A L Q S A R H D C D L L R
 |1331 |1341

 |4041 |4051 |4061 |4071 |4081 |4091
 GAGCAGTACGAGGAGGAGACGGAGGCCAAGGCCGAGCTGCAGCGCGTCCTTTCCAAGGCC
 E Q Y E E E T E A K A E L Q R V L S K A
 |1351 |1361

 |4101 |4111 |4121 |4131 |4141 |4151
 AACTCGGAGGTGGCCCAAGTATGAGACGGACGCCATTCAGCGGACTGAG
 N S E V A Q W R T K Y E T D A I Q R T E
 |1371 |1381

 |4161
 GAGCTCGAGGAGGCCAAGtgagttctgagcagcctgacttctggctgaggccctttgca
 E L E E A K

ggcaggactcagcccagccccagcctcagcagatcccacacaggcgatgcttagctagtg
 tttgacaacacaggaggactctgccccggccccacctccttctcctctcaggggaagcttt
 ttgctcgaattatgtttctgatccgaatataagacgaacaaaaggtttgtctgagggcag
 agtgcttccgtctggggcagggcactgtggcagggaaaggcagtggggagggctgcagaa
 gcccatacctcctcaat

Exon 31 | Start: 4276 | End: 4459 | Length: 183

gtgcttccgtctggggcagggcactgtggcagggaaaggcagtggggagggctgcagaag
 cccatacctcctcaatgtccatagcgcagaggctgggccagggtcagagggtgcctgggt
 ctccacgccctgtgggatcctctgcctgatgttctcgccccctgggacctgtcctcagg
 cttctccagctacacttctgaggtttcaaggattgtctttgagaaggttcatgttgtttc
 ctcttgtcccatccacaccctccatcctccccaccctctgccaccctcccctgggcagg

 |4171 |4181 |4191 |4201 |4211 |4221
 GAAGAAGCTGGCCAGCGGCTGCAGGAAGCTGAGGAGGCCGTGGAGGCTGTTAATGCCAA
 K K L A Q R L Q E A E E A V E A V N A K

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|1391                                |1401

|4231      |4241      |4251      |4261      |4271      |4281
GTGCTCCTCGCTGGAGAAGACCAAGCACCGGCTACAGAATGAGATCGAGGACTTGATGGT
C S S L E K T K H R L Q N E I E D L M V
|1411                                |1421

|4291      |4301      |4311      |4321      |4331      |4341
GGACGTAGAGCGCTCCAATGCTGCTGCTGCAGCCCTGGACAAGAAGCAGAGGAACTTCGA
D V E R S N A A A A A L D K K Q R N F D
|1431                                |1441

|4351
CAAGgtgggccctgggtgggggccgcagccagcatgcagggaagggggcatgaggggtt
K
|1451

cagtgaaggccagagccatcctccttgagggtgggggaggagggtgagcccaggcagg
tcctgagacagaccctggacatggggctgaggctggggggctgaagagtgagccttgtcc
ccgggcagatcctggccgagtggaagcagaagtatgaggagtcgcagtcggagctggagt
cctcgcagaaggaggctcgctccctcagcacagagctcttcaaactcaagaacgcctatg
agga

Exon 32 | Start: 4460 | End: 4625 | Length: 165

gctggagaagaccaagcaccggctacagaatgagatcgaggacttgatggtggacgtaga
gcgctccaatgctgctgctgcagccctggacaagaagcagaggaacttcgacaagggtggg
ccctgggtgggggccgcagccagcatgcagggaagggggcatgaggggttcagtgaag
gccagagccatcctccttgagggtgggggaggagggtgagcccaggcaggtcctgagac
agaccctggacatggggctgaggctggggggctgaagagtgagccttggtccccgggcaga

|4361      |4371      |4381      |4391      |4401      |4411
ATCCTGCGCCGAGTGGAAGCAGAAGTATGAGGAGTCGCAGTCGGAGCTGGAGTCCTCGCAG
I L A E W K Q K Y E E S Q S E L E S S Q
|1461                                |1471

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|4641
CCGAGgtgtgtgtgtgtgcagggcacggggtgcagggagctgagctccaggcttttggtc
E

cctgttctcatccccgctttgtccgttttgttcaactgtcccatccccagagcctaggac
agagcctggcacatagtaggcattcagtgaagatttgtggagtgaatgaatgaccagtca
ctgaactctcttcacataaacattttacccattgcatcttagctgagcttcccatttcca
catacctcccggttcccacctctgcctccctctgttttcttttatactctatacctgatt
gcctc

Exon 34 | Start: 4751 | End: 5059 | Length: 308

ctgcctccctctgttttcttttatactctatacctgattgcctctgtttccttggcaaca
cttttctcttcattttcctccttgtcttcatactggctctcccctgtgagggcctgaat
cactttctcttaggcttatttttattttctcttagattctcttttccctccaccttctgct
tctttgaaccacttacaccactcttgaagtcacttcgtatccatgattagtgagcaggcc
cccaccctgccctgtgccctgactgtctgcctgcatcccctcccccaacccttcccagg

4651	4661	4671	4681	4691	4701
GCCTCCCTGGAGCACGAGGAGGGCAAGATCCTCCGGGCCAGCTGGAGTTCAACCAGATC					
A S L E H E E G K I L R A Q L E F N Q I					
1551			1561		

4711	4721	4731	4741	4751	4761
AAGGCAGAGATCGAGCGGAAGCTGGCAGAGAAGGACGAGGAGATGGAACAGGCCAAGCGC					
K A E I E R K L A E K D E E M E Q A K R					
1571			1581		

4771	4781	4791	4801	4811	4821
AACCACCTGCGGGTGGTGGACTCGCTGCAGACCTCCCTGGACGCAGAGACACGCAGCCGC					
N H L R V V D S L Q T S L D A E T R S R					
1591			1601		

4831	4841	4851	4861	4871	4881
------	------	------	------	------	------

AACGAGGCCCTGAGGGTGAAGAAGAAGATGGAAGGAGACCTCAATGAGATGGAGATCCAG
 N E A L R V K K K M E G D L N E M E I Q
 |1611 |1621

|4891 |4901 |4911 |4921 |4931 |4941
 CTCAGCCACGCCAACCGCATGGCCGCCGAGGCCAGCAAGCAAGTCAAGAGCCTCCAGAGC
 L S H A N R M A A E A Q K Q V K S L Q S
 |1631 |1641

|4951
 TTGTTGAAGgtactcaccagaggggactggcctccacgtggcctggcgaagcagtagtg
 L L K
 |1651

tcttgatacaggcaccagattcctcctgcccctaggttactgcaggacacctgacaggt
 gccttttagtgaagggaaccgaggctggctccctgctcatgcccactctcctgatcctcag
 gacaccagattcagctggacgatgcagtcctgtccaacgacgacctgaaggagaacatc
 gccatcgtggagcggcgcaacaacctgctgcaggctgagctggaggagttgcgtgccgtg
 gtggagcag

Exon 35 | Start: 5060 | End: 5263 | Length: 203

acgaggccctgagggtgaagaagaagatggaaggagacctcaatgagatggagatccagc
 tcagccacgccaaccgcatggccgcccaggcccagaagcaagtcaagagcctccagagct
 tgttgaagggtactcaccagaggggactggcctccacgtggcctggcgaagcagtagtgt
 cttgatacaggcaccagattcctcctgcccctaggttactgcaggacacctgacaggtg
 ccttttagtgaagggaaccgaggctggctccctgctcatgcccactctcctgatcctcagg

|4961 |4971 |4981 |4991 |5001 |5011
 GACACCCAGATTGAGCTGGACGATGCAGTCCGTGCCAACGACGACCTGAAGGAGAACATC
 D T Q I Q L D D A V R A N D D L K E N I
 |1661 |1671

|5021 |5031 |5041 |5051 |5061 |5071
 GCCATCGTGGAGCGGCCAACCAACCTGCTGCAGGCTGAGCTGGAGGAGTTGCGTGCCGTG

A I V E R R N N L L Q A E L E E L R A V
 |1681 |1691

|5081 |5091 |5101 |5111 |5121 |5131
 GTGGAGCAGACAGAGCGGTCCCGGAAGCTGGCGGAGCAGGAGCTGATTGAGACTAGTGAG
 V E Q T E R S R K L A E Q E L I E T S E
 |1701 |1711

|5141 |5151
 CGGGTGCAGCTGCTGCATTCCCAGgtgagcagctcccctgctcattcctgaaggagcac
 R V Q L L H S Q

aggctggggctcagcaagcaaggcttgagagctatgcatagatgctcaatgcttttcctg
 ctctgccaaccctccccaaccagaacaccagcctcatcaaccagaagaagaagatgg
 atgctgacctgtcccagctccagactgaagtggaggaggcagtgaggagtgagggaatg
 ctgaggagaaggccaagaaggccatcacggatgtaagtccccactccaccgaccgatc
 cagaccagtgtctctccgtgggct

Exon 36 | Start: 5264 | End: 5389 | Length: 125

gtccgtgccaacgacgacctgaaggagaacatcgccatcgtggagcggcgcaaacctg
 ctgcaggctgagctggaggagttgctgcccgtggtggagcagacagagcgggtcccggag
 ctggcggagcaggagctgattgagactagtgagcgggtgcagctgctgcattcccagggtg
 agcagctcccctgctcattcctgaaggagcacaggctggggctcagcaagcaaggcttg
 agagctatgcatagatgctcaatgcttttcctgctctgccaaccctccccaaccaga

|5161 |5171 |5181 |5191 |5201 |5211
 AACACCAGCCTCATCAACCAGAAGAAGAAGATGGATGCTGACCTGTCCAGCTCCAGACT
 N T S L I N Q K K K M D A D L S Q L Q T
 |1721 |1731

|5221 |5231 |5241 |5251 |5261 |5271
 GAAGTGGAGGAGGCAGTGCAGGAGTGCAGGAATGCTGAGGAGAAGGCCAAGAAGGCCATC
 E V E E A V Q E C R N A E E K A K K A I

|1741 |1751

|5281
ACGGATgtaagtccccactccaccgacccgatccagaccagtgtctctccgtgggctgg
T D
|1761

gcagcaagtgtgtgaggacttgaccagaccatgtgccacctctctcctgcacacaggccg
ccatgatggcagaggagctgaagaaggagcaggacaccagcgccacctggagcgcatga
agaagaacatggaacagaccattaaggacctgcagcaccggctggacgaagccgagcaga
tcgcctcaagggcggcaagaagcagctgcagaagctggaagcgcgggtgcgggagctgg
agaatg

Exon 37 | Start: 5390 | End: 5665 | Length: 275

cttgagagctatgcatagatgctcaatgcttttcctgctctgcccaccctccccaacc
cagaacaccagcctcatcaaccagaagaagaagatggatgctgacctgtcccagctccag
actgaagtggaggaggcagtgccagtgatgcaggaatgctgaggagaaggccaagaaggcc
atcacggatgtaagtccccactccaccgacccgatccagaccagtgtctctccgtgggc
tgggcagcaagtgtgtgaggacttgaccagaccatgtgccacctctctcctgcacacagg

5291	5301	5311	5321	5331	5341
GCGCCATGATGGCAGAGGAGCTGAAGAAGGAGCAGGACACCAGCGCCACCTGGAGCGC					
A A M M A E E L K K E Q D T S A H L E R					
	1771				1781

5351	5361	5371	5381	5391	5401
ATGAAGAAGAACATGGAACAGACCATTAAGGACCTGCAGCACCGGCTGGACGAAGCCGAG					
M K K N M E Q T I K D L Q H R L D E A E					
	1791				1801

5411	5421	5431	5441	5451	5461
CAGATCGCCCTCAAGGGCGGCAAGAAGCAGCTGCAGAAGCTGGAAGCGGGTGCGGGAG					
Q I A L K G G K K Q L Q K L E A R V R E					
	1811				1821

5471	5481	5491	5501	5511	5521
CTGGAGAATGAGCTGGAGGCCGAGCAGAAGCGCAACGCAGAGTCGGTGAAGGGCATGAGG					
L	E	N	E	L	E
A	E	Q	K	R	N
A	E	S	V	K	G
M	R				
		1831			1841

5531	5541	5551
AAGAGCGAGCGGCGCATCAAGGAGCTCACCTACCAGgtgacgggcggtgactccaggc		
K	S	E
R	R	I
K	E	L
T	Y	Q
		1851

agagccctggcaccatagccacagtgacaaccagctgaggagaatgaagagtttgctctt

agcctcttccaggcgaggatgggaatgcagccccgtttcactttgcctagccctgccc

cactctgaatgtcccctagctcagaggtcagtctctgagcctcctggcctgggagctcca

tctcaacacccactcttagcccatcgccaggggacacacagaattccagacaaagctc

accagtacagctcaccagaaagcaaatatgtagcc

Exon 38 | Start: 5666 | End: 5761 | Length: 95

ggacttcatcccgcatgggggtccccggaccctgaaaaacctgctccctggagcactgcac

acacacaattttgtgcataatttcaggagtcctactagttctttggactctttcctggta

cagatcatttaaaatatttacacatatttggttaagaaattataaggagaattcaagtgtt

tagtgaggatcagaaagtagaattgggtcaggatatcagatgaagcagggcagggcgagg

gggatgctaccttctatgactgtgccatcttcacccctgcctaccctctggccccaga

5561	5571	5581	5591	5601	5611
ACGGAGGAGGACAGGAAAAACCTGCTGCGGCTGCAGGACCTGGTAGACAAGCTGCAGCTA					
T	E	E	D	R	K
N	L	L	R	L	Q
D	L	V	D	K	L
Q	L				
		1861			1871

5621	5631	5641	5651
AAGGTCAAGGCCTACAAGCGCCAGGCCGAGGAGGCGgtgagtgaccctgctggggactag			
K	V	K	A
Y	K	R	Q
A	E	E	A
		1881	

gcccaggggagggcataggagagctcgtccccaagccaggagtctgagaacccaggcccc
ctctcacctcatgctcccacctcccgcaggaggagcaagccaacaccaacctgtccaagt
tccgcaaggtgcagcacgagctggatgaggcagaggagcgggcggacatcgccgagtccc
aggtcaacaagctgcgggccaagagccgtgacattggcacgaaggtgggtccctcttttg
ggctttgctagtcacccccacagcaggcatacccag

Exon 39 | Start: 5762 | End: 5896 | Length: 134

aggatatcagatgaagcagggcagggcggaggggatgctaccttctatgactgtgccatc
ttcacccctgcctaccctctggccccagacggaggaggacaggaaaaacctgctgcgg
ctgcaggacctggttagacaagctgcagctaaaggtcaaggcctacaagcgccaggccgag
gaggcgggtgagtgaccctgctggggactaggcccaggggagggcataggagagctcgtccc
ccaagccaggaggtctgagaacccaggccccctctcacctcatgctcccacctcccgcagg

5661	5671	5681	5691	5701	5711
GAGGAGCAAGCCAACCAACCTGTCCAAGTTCGCAAGGTGCAGCACGAGCTGGATGAG					
E E Q A N T N L S K F R K V Q H E L D E					
	1891			1901	

5721	5731	5741	5751	5761	5771
GCAGAGGAGCGGGCGGACATCGCCGAGTCCCAGGTCAACAAGCTGCGGGCCAAGAGCCGT					
A E E R A D I A E S Q V N K L R A K S R					
	1911			1921	

5781
GACATTGGCACGAAGgtgggtccctcttttgggctttgctagtcacccccacagcaggca
D I G T K

taccagacagagcacctcaaaccgggatgcttccttttcatttattccacacttg
agccacatggccccagaggccaagtaatgcagttctctgtgatttcaaggattcttcca
gctctaacttttttttttttttttttttgagacggtgtctcactctgccgccaggctgga

gtgcagtggcacaatctcagctcactgcaacctctgcctcctgggttctcctgcctcagc
ctcccaagtagctgg

Exon 40 | Start: 5897 | End: 6030 | Length: 133

acctaattttgtcctgcaatcttgtaactcaaacctaaaatggacatcccagagaacccg
ggcctggctttgttctcgcccaggcaacttcctctgaccaaccccagaaccctaccctc
cagaacttgcccccgaaacatcgatccctggaaacacatgtgctgctgccacaggggctt
ccacctgcccacaaagcaggccccccaccatcagaccctctcacctttgttcccatgcc
ctgtccctgcccataaccatctctccaaggactgattggactttgtttcctttcaaaagg
|5791 |5801|+1 |11 |21 |31 |41
GGCTTGAATGAGGAGTAGCTTTGCCACATCTTGATCTGCTCAGCCCTGGAGGTGCCAGCA
G L N E E *
|1931

|+51 |+61 |+71 |+81 |+91 |+101
AAGCCCCATGCTGGAGCCTGTGTAACAGCTCCTTGGGAGGAAGCAGAATAAAGCAATTTT

|+111
CCTTGAAGCCGAGAtcctgactccagactcttcttctactgccttgaggacccggggatgg
ggtctggactaggggaggtggaaatgcaggggagtgggggcaaattcaaaggcctggcct
aggaggccttcgtggagcagcactgaaaaccctttcacttccccaaaccagccaaatg
cagcagaggcgacacctctcctccagccttctcctgggtccagccaggatttaaaggag
atttagggagaccctaaagttcacctagagcacctgagcccatctactgtggacctgc
acccagcttccgt