

Gene: ASL - Sequence: NG\_009288.1

Date : February 11, 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: 5000 | End: 5068 | Length: 68

```
. . . . .
ggcctgatgtcatagcctctacccctggcccgagtctccagtcccctgctgtctgtga
. . . . .
ccacagcacgaacgccagcgactaccctcctcaaccccagcccaggccccttccccgtc
. . . . .
gggggtcccccaaccctttccccgcccgttccccgccccggggcgcttagcctccagc
. . . . .
tcagcgggaggtatccccgcccacggccaggattggaggatggaggcaacgcccaccccg
. . . . .
ccgggcggcctcctattggcgcgccgtcgccaggggtggggacaggaccggcggtgct
|-109 |-99 |-89 |-79 |-69 |-59
GACGCCATCCCGGCCAGAAAAGCCCTGGCCAGTGGCGGGCGCGACACTATCCGTGCGGCC
|-49
AGGCGGAGgtgagtgcgcggcgccggatgggcgggacgggcgtggaggacgccgagcac
. . . . .
cgtggcgcgctcacgtccgctccccaagggtcgctccctcaagcgcagtgcccag
. . . . .
aactcggagccagcccggccgggggaccctgctggccaaggaggtcgtcagtcgggtct
. . . . .
tgtcttccagaccggaggaccgaagcttccggacgacgaggaaccgccaacatggcct
. . . . .
cggaggtgagtgggacactcggggactccggtcctcctagcctccaaaggagagagtgggg
```

. .  
gcgccaga

Exon 2 | Start: 5250 | End: 5305 | Length: 55

. . . . .  
tcctattggcgcggccgtcgccaggggtggggacaggaccggcggctgctgacgccatcc  
.  
cggccagaaaagccctggccagtggcgggcgcgacactatccgtgcggccaggcggaggt  
.  
gagtgcgcggcggccggatgggcgggacgggcgtggaggacccgagcacctggcgcgc  
.  
gctcacgtccgcgtccccaagggtgcgctccctcaagcgcagtgcccagaactcggagc  
.  
cagcccggcccgggggaccctgctggccaaggaggtcgtcagtcgggtcttgtcttcag  
.  
|-39       |-29       |-19       |-9       |1       |11 .  
ACCCGGAGGACCGAAGCTTCCGGACGACGAGGAACCGCCCAACATGGCCTCGGAGgtgag  
  M A S E  
  |1  
.  
tgggacctcggggactccggtcctcctagcctccaaaggagagagtgggggcgcagacc  
.  
tgcctcgggccaccctgctgggaatcgccctccaggaagcaatTTTgaaaattacctagg  
.  
aagcctgcacccccagccctcccgggcgcatcatctggagcccagcagtcacctttacca  
.  
ggactcaccagtatccgcaggcagcccttgtggcaaaccaccaaccacactactaggg  
.  
gtagagtggctctgccctcacctcacagtgatgcctgcctggccaggaaaagtgg

Exon 3 | Start: 11014 | End: 11209 | Length: 195

```
. . . . .
ctgggaggcagagtttgcagtgagctgagatggcaccactgtactccagcctggccgaca

. . . . .
aagtgagactctgtctcaaaaaaaaaaaaaaagaacccaaacttttggtgttcagccatg

. . . . .
ttcccatgctcactcccagggtggtgactctgggaaggtctcagcctcctgtctgccca

. . . . .
gttagaatgatctgatgccctgctaccatcagacttgataagtttcccaaagactcttt

. . . . .
gcaagaagcactgttctggagggtggaggagagactaattgttcttgctctcctggccag

      |21      |31      |41      |51      |61      |71
AGTGGGAAGCTTTGGGGTGGCCGTTTGTGGGTGCAGTGGACCCCATCATGGAGAAGTTC
S  G  K  L  W  G  G  R  F  V  G  A  V  D  P  I  M  E  K  F
      |11                      |21

      |81      |91      |101     |111     |121     |131
AACGCGTCCATTGCCTACGACCGGCACCTTTGGGAGGTGGATGTTCAAGGCAGCAAAGCC
N  A  S  I  A  Y  D  R  H  L  W  E  V  D  V  Q  G  S  K  A
      |31                      |41

      |141     |151     |161     |171     |181     |191
TACAGCAGGGGCTGGAGAAGGCAGGGCTCCTCACCAAGGCCGAGATGGACCAGATACTC
Y  S  R  G  L  E  K  A  G  L  L  T  K  A  E  M  D  Q  I  L
      |51                      |61

      |201
CATGGCCTAGACAAGgtacttgccgtggcccaagccccaccaaggccccttccctgtgg
H  G  L  D  K

. . . . .
ccccaggctcccaccaaaccctgagcaaacagtgcagtggtgcccatctgtggtttcac

. . . . .
attgaactaattatataactcaagtgtgtttaactgtgtgccttgatgactgcctctctc
```

. . . . .  
 catcctttaatgaccctgtggcccatggctcatgggtaaagggtgtgctgggcctgag  
 . . . . .  
 atgccccctcccagggtgcgcttcaggactcagctcctgggcaggacagtcagtcacc  
 . . . . .  
 agggatagggtggga

Exon 4 | Start: 11579 | End: 11663 | Length: 84

. . . . .  
 gcaaacagtgcagtggtgcccacatctgtggtttcacattgaactaattatataactcaagtg  
 . . . . .  
 ctgtttaactgtgtgccttgatgactgcctctctccatcctttaatgaccctgtggccc  
 . . . . .  
 acatggctcatgggtaaagggtgtgctgggcctgagatgccccctcccagggtgcgcttcc  
 . . . . .  
 aggactcagctcctgggcaggacagtcagtcaccagggatagggtgggaccaaggcagg  
 . . . . .  
 ggctctcttggtgctgatgcctgctcacctgaccccggcattgctgctaccactacag

211	221	231	241	251	261
GTGGCTGAGGAGTGGGCCAGGGCACCTTCAA	ACTGAACTCCAATGATGAGGACATCCAC				
V A E E W A Q G T F K L N S N D E D I H					
71		81			

271	281	291	.	.	.	.	.
ACAGCCAATGAGCGCCGCTGAAGgtacgaccctggagccccaccgctttccttgctc							
T A N E R R L K							
91							

. . . . .  
 ccctctccaccttgcccagggccactttgagcattagcaccattctgtttacttcgccat  
 . . . . .  
 tggcagacagcatgtgagacctcaggacatgagccaggcacccctggctcatgcctataat

. . . . .  
 cctagcactttgggaggctgaggtgggaggattgcttgagaccaggagttcgagaccagc  
 . . . . .  
 ctgggcaacataatgaggtcccacagctacaaaaattaaaaaagaaaagaaaaaagaa  
 . . . . .  
 caggcctcagcagaaatggcgaga

Exon 5 | Start: 12091 | End: 12148 | Length: 57

. . . . .  
 gccaggcacccctggctcatgcctataatcctagcactttgggaggctgaggtgggaggat  
 . . . . .  
 tgcttgagaccaggagttcgagaccagcctgggcaacataatgaggtcccacagctacaa  
 . . . . .  
 aaattaaaaaagaaaagaaaaaagaacaggcctcagcagaaatggcgagagatttggg  
 . . . . .  
 gaggaccgggagccctgggggtatggaggtaggttggcagggctgatgaggaaaactgccc  
 . . . . .  
 tgcctgggttgactcctctgggggtatagaccgtgaccctgggtctcccttcacctccag

	301	311	321	331	341
	GAGCTCATTGGTGCAACGGCAGGGAAGCTGCACACGGGACGAGCCGGAATGACCAGgtg				
E	L	I	G	A	T
		A	G	K	L
			H	T	G
				R	S
				R	N
				D	Q
	101			111	

. . . . .  
 ctttagccctccacccctgctccgtgttgtcccaaccttgaggagcccagggggcagt  
 . . . . .  
 tagagttctgcagcggctcctggctcctcaggaagcaacacatcggcctccctgagcacc  
 . . . . .  
 atctcctccttgacaggtggtcacagacctcaggctgtggatgcggcagacctgctcca  
 . . . . .  
 cgctctcgggcctcctctgggagctcattaggaccatggtggatcgggcagaggcgtgag

. . . . .  
tcctacagggacaccagggggcagacagaggtgtgatggaagcctgaacaggagac

Exon 6 | Start: 12288 | End: 12386 | Length: 98

. . . . .  
gggtatggaggttaggttggcagggctgatgaggaaaactgccctgcctgggttgactcct

. . . . .  
ctgggggtatagaccgtgaccctgggtctcccttcacctccaggagctcattggtgcaac

. . . . .  
ggcaggggaagctgcacacgggacggagccggaatgaccaggtgctttagcccctccaccc

. . . . .  
cctgctccgtgttgtcccaaccttgaggagcccagggggcagttagagttctgcagcgtt

. . . . .  
cctggctcctcaggggaagcaacacatcggcctccctgagcaccatctcctccttgcacag

      |351      |361      |371      |381      |391      |401  
GTGGTCACAGACCTCAGGCTGTGGATGCGGCAGACCTGCTCCACGCTCTCGGGCCTCCTC  
V V T D L R L W M R Q T C S T L S G L L  
              |121                              |131

      |411      |421      |431      |441      . . . . .  
TGGGAGCTCATTAGGACCATGGTGGATCGGGCAGAGGCgtgagtcctacagggacacca  
W E L I R T M V D R A E A  
              |141

. . . . .  
gggggcagacagaggtgtgatggaagcctgaacaggagacctagggggcaggggtgaaca

. . . . .  
gcgtgggggtgccaggccctgggggacaggggcatccagaactccaggatcgaggcaga

. . . . .  
gcagccaggagtgggccatttcctgcaggccccaataactcccatgccagtctagctcagc

. . . . .  
aggcagagaagactaacccttcgtggggctgggtgcggtggctcacgcctgtaatctcag

. . . . .  
cactttgggaggccgaggtgggtggatcacctgaggtc

Exon 7 | Start: 15796 | End: 15874 | Length: 78

. . . . .  
tattctggcccctgctcggagatgctgagtgacagaggctggacttgggggtgtttctggc

. . . . .  
aaagcctcactgcaggaagccccacagctcaggcccagtccttggttcacacggtccac

. . . . .  
ttccagcttcttttgccttaagactgatttgtccctgggagatcaccagatccctcatt

. . . . .  
caggtggagtgctgcagcgtgacactttttccaggggtgacctcaggcctgcagggtcca

. . . . .  
gtgtcacaggcaggccttgcatgagcctccacccgagcttctgctcctcctctcccacag

          |451          |461          |471          |481          |491          |501  
GGAACGTGATGTTCTTCTCCCGGGGTACACCCATTTGCAGAGGGCCCAGCCCATCCGCTG  
E  R  D  V  L  F  P  G  Y  T  H  L  Q  R  A  Q  P  I  R  W  
          |151                          |161

          |511          |521          .          .          .          .          .  
GAGCCACTGGATTCTGAGgtgagccaggtgaggtgcaggggctgtgctagaggggaggac  
S  H  W  I  L  S  
          |171

. . . . .  
cccggctgccctgaccctcctgcccttggttcccacagccacgccgtggcactgacctg

. . . . .  
agactctgagcggctgctggaggtgcggaagcggatcaatgtcctgcccctggggaggtg

. . . . .  
ggtgaggctccagtgccccgagggcctggtgggggtggctgctgcatagccttagggatt

. . . . .  
gacagagctgggaagtgcagagtgggacagaaaaccgccttatctgctcagcgggggact

. . . .  
ctgcatggagccccagct

Exon 8 | Start: 15955 | End: 16033 | Length: 78

. . . . .  
gagatcaccagatccctcattcaggtggagtgctgcagcgtgacactttttccaggggtg

. . . . .  
acccaggcctgcagggttccagtgtcacaggcaggccttgcatgagcctccacccgagct

. . . . .  
tctgctcctcctctcccacagggaacgtgatgttcttcccggggtacacccatttgca

. . . . .  
gagggcccagcccatccgctggagccactggattctgaggtgagccaggtgaggtgcagg

. . . . .  
ggctgtgctagaggggaggacccccggctgccctgaccctcctgcccctggcttcccacag

          |531      |541      |551      |561      |571      |581  
CCACGCCGTGGCACTGACCCGAGACTCTGAGCGGCTGCTGGAGGTGCGGAAGCGGATCAA  
H  A  V  A  L  T  R  D  S  E  R  L  L  E  V  R  K  R  I  N  
                  |181                                  |191

          |591      |601      .      .      .      .      .      .  
TGTCCTGCCCTGGGGAGgtgggtgaggctccagtgccccgagggcctggtgggggtggc  
V  L  P  L  G  S  
                  |201

. . . . .  
tgctgcatagccttagggattgacagagctgggaagtgcagagtgggacagaaaaccgcc

. . . . .  
ttatctgctcagcgggggactctgcatggagccccagctctcgctaaggtgacgaccaag

. . . . .  
ccattgaatgtgtctgagcagggccagagccctccagcaaggctcctggcaagcccagcc

. . . . .  
tgctgccctcagcctgacatgtgggaacatgtgtcaggagacaagtgtcctgcacccagg



gtgacttagtgcttgggg

Exon 9 | Start: 16545 | End: 16598 | Length: 53

aagcccagcctgctgccctcagcctgacatgtgggaacatgtgtcaggagacaagtgtcc

tgcaaccagggtgacttagtgcttggggacaagtgtttgtggacacttggggacaagta

ttctgtaccaagagactgggccaggggaaggctaagcgccaggtggttgccctggca

accaggacttggttctctgtgtgtgcgttcgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt

gtgtgtgtgtcagggctgcctgccaggagccctggtcaccatgaatccctgtccctgcag

|611 |621 |631 |641 |651 .  
 TGGGGCCATTGCAGGCAATCCCCTGGGTGTGGACCGAGAGCTGCTCCGAGCAGgtgagac  
 G A I A G N P L G V D R E L L R A E  
 |211

gtcctgccccctcctccccagggagaatcacctcagcacccgccaagacctgcagacaca

cctgaaaccagagggcaggggcctgtggctcctggtgaaaccttcattcattgcctatgg

gcactgaggtcatcaagttcaggggtcactcatggcagggatgcctggtactgagagact

cagggctcctgcctccctcctgggactgtgcaaaagatccctccccccagctgttgcccc

accctgatcaggggagggggctgggcaacctagttaggggagagggggccact

Exon 10 | Start: 16940 | End: 17003 | Length: 63

```
. . . . .
gcacccgccaagacctgcagacacacctgaaaccagagggcaggggcctgtggctcctgg

. . . . .
tgaaaccttcattcattgcctatgggcactgaggtcatcaagttcaggggtcactcatgg

. . . . .
cagggatgcctggtactgagagactcagggtcctgcctccctcctgggactgtgcaaaa

. . . . .
gatccctccccccagctgttgccccaccctgatcaggggagggggctgggcaacctagtt

. . . . .
gggggagagggggccactccctgtcctccagcttagccctgcttccctccacccccccag

      |661      |671      |681      |691      |701      |711
AACTCAACTTTGGGGCCATCACTCTCAACAGCATGGATGCCACTAGTGAGCGGGACTTTG
  L  N  F  G  A  I  T  L  N  S  M  D  A  T  S  E  R  D  F  V
      |221                        |231

. . . . .
TGGgtgagtcctggggagccagtcacctgtgcctcactttagtccttcagcccag
A

. . . . .
cttctctccagtttctccacacctccacggacaggctgggtgtggtgatattgtacac

. . . . .
tgaagtataaaccttaaatgggtaaagtgggtggggcatgggtggttcacatgcccagca

. . . . .
ctggccaacatggtgaaaccccatctctactaagaatacaaaatttagctgggtgtgtgg

. . . . .
tggcaggtgcctgtaatcccagctactcaggagttctgaggccagagaatcacttgaacc

.
cag
```

Exon 11 | Start: 18018 | End: 18133 | Length: 115

```
. . . . .
ataaattgtatgtgagtataactcagtaaagctggtttattttaaacaacaacaataac
. . . . .
aaaaaacacgctaggtgcaatggcttacgtttgtaatcctagcactttgggaggccaaag
. . . . .
cagaaggattgcttgagcccacaagtttcagaacagcttgggcgacatagcacgacccca
. . . . .
tctttgcgaaaatgaaaatttagccgggtccccccaccgcctaacctcctcctgcccc
. . . . .
tgtatggtcaggctgggtggggatgggagaggcctggtgactgggaaccttttctcccag
|721      |731      |741      |751      |761      |771
CCGAGTTCCTGTTCTGGGCTTCGCTGTGCATGACCCATCTCAGCAGGATGGCCGAGGACC
E F L F W A S L C M T H L S R M A E D L
|241                                |251

|781      |791      |801      |811      |821      |831      .
TCATCCTCTACTGCACCAAGGAATTCAGCTTCGTGCAGCTCTCAGATGCCTACAGgtaag
I L Y C T K E F S F V Q L S D A Y S
|261                                |271

. . . . .
ccctgaactgccacctccatctgccgctgccggcctctgtatcccccgccgccgcgagac
. . . . .
gtggctgccttcctccccgtcccacccctccgccagacctggccattgcggcgctggacc
. . . . .
agccaagggtccagcccccttcagcgccagcacctctgtcccagcacgggaagcagcctg
. . . . .
atgccccagaagaaaaaccccgacagtttggagctgatccggagcaaggctgggcgtgtg
. . . . .
tttgggcgggtgagcaaggcagggggaggggcggggcctctgggctgatggtggg
```

Exon 12 | Start: 18302 | End: 18387 | Length: 85

```
. . . . .
gaaccttttctcccagccgagttcctgttctgggcttcgctgtgcatgacccatctcagc
. . . . .
aggatggccgaggacctcatcctctactgcaccaaggaattcagcttcgtgcagctctca
. . . . .
gatgcctacaggtaagccctgaactgccacctccatctgccgctgccggcctctgtatcc
. . . . .
cccgccgcccgcgagctggctgccttcctccccgtcccaccctccgccagacctggcc
. . . . .
attgcggcgctggaccagccaagggtccagccccttcagcgccagcacctctgtccccag
      |841      |851      |861      |871      |881      |891
CACGGGAAGCAGCCTGATGCCCCAGAAGAAAAACCCGACAGTTTGGAGCTGATCCGGAG
  T  G  S  S  L  M  P  Q  K  K  N  P  D  S  L  E  L  I  R  S
      |281                                |291

      |901      |911      . . . . .
CAAGGCTGGCGTGTGTTGGGCGGgtgagcaaggcagggggaggggcggggcctctggg
  K  A  G  R  V  F  G  R
      |301

. . . . .
ctgatggtgggtggccaggggggcaggatcccgggtccagcccctgtgcctccctcttcc
. . . . .
cgcagtgtgccgggctcctgatgacctcaagggaacttcccagcacctacaacaagact
. . . . .
tacaggtgcgaggccgggggaggcctggctagtacgtgccagttctcagggtcttggcac
. . . . .
actcaggcagggccccaccccgggattgccatacatcctcccatcctgtgcacacagctc
. . . . .
catccgtggctgcccttgaactctc
```

Exon 13 | Start: 18487 | End: 18547 | Length: 60

```
. . . . .
cgcccgcggtgacgtggctgccttcctccccgtcccacccctccgccagacctggccattgc
. . . . .
ggcgctggaccagccaagggtccagccccttcagcgccagcacctctgtccccagcacgg
. . . . .
gaagcagcctgatgccccagaagaaaaaccccgacagtttggagctgatccggagcaagg
. . . . .
ctgggcgtgtgtttgggcgggtgagcaaggcagggggaggggcggggcctctgggctgat
. . . . .
ggtgggtggccaggggggcaggatcccgggtccagcccctgtgcctccctcttcccgag
|921      |931      |941      |951      |961      |971
TGTGCCGGGCTCCTGATGACCCTCAAGGGACTTCCCAGCACCTACAACAAAGACTTACAG
C A G L L M T L K G L P S T Y N K D L Q
      |311                      |321
. . . . .
gtgcgagggccgggggaggcctggctagtacgtgccagttctcagggtcttggcacactca
. . . . .
ggcagggccccaccccgggattgccatacctcccatcctgtgcacacagctccatcc
. . . . .
gtggctgcccttgaactctctgcccttcctttgttggggatttgagtgttcttcccatgg
. . . . .
aaggcagtggggatgcctcagtgggggggtggggctgtggggaccctgggtgccaggggg
. . . . .
ctgctaggccctcacctcctgccatgtgcctcccaggaggacaaggaagctgtgtttgaa
```

Exon 14 | Start: 18823 | End: 18907 | Length: 84

. . . . .  
 agcacctacaacaaagacttacaggtgcgaggccgggggaggcctggctagtacgtgccca  
 . . . . .  
 gttctcagggtcttggcacactcaggcagggccccaccccggttgcatacatcctcc  
 . . . . .  
 catcctgtgcacacagctccatccgtggctgcccttgaactctctgcccttcctttgttg  
 . . . . .  
 ggggtattgagtgttcttcccatggaaggcagtggggatgcctcagtgggggggtggggct  
 . . . . .  
 gtggggaccctgggtgccagggggctgctaggccctcacctcctgccatgtgcctcccag  
 |981 |991 |1001 |1011 |1021 |1031  
 GAGGACAAGGAAGCTGTGTTTGAAGTGTCAGACACTATGAGTGCCGTGCTCCAGGTGGCC  
 E D K E A V F E V S D T M S A V L Q V A  
 |331 |341  
 |1041 |1051 |1061 . . . . .  
 ACTGGCGTCATCTCTACGCTGCAGGcaagacatcacccccctgcttctcctcccctaggt  
 T G V I S T L Q  
 |351  
 . . . . .  
 cccaggcactgggggtgggcatgcggggagggtggccttgggaggaggtgaggtggggctg  
 . . . . .  
 gaggacctggggcaggggaaggagaggtgtgctcgctcctgctcctggggaacagggaag  
 . . . . .  
 gacagaaactgctgccatgcagtgggaagtagatgagactcagggggcctggggcctgtca  
 . . . . .  
 aatggcctgaccagaactctttaaaaaaagaaaatctaaacaaaaggccaggtgcagtgg  
 . . . . .  
 ctcatgcctggaatctcacacttt

Exon 15 | Start: 21217 | End: 21298 | Length: 81

. . . . .  
 gaccctgtctcctaaaacagaaaacaaatcctccaggaacatctgatgcatgctgaagat  
 . . . . .  
 aaggactctttgaaaacataaaggccagtaaaacatacaggccagtaagtgttcatagca  
 . . . . .  
 catgtaaatattatcgataattatgagaagatggttcaagttgagagtgagacagagccg  
 . . . . .  
 agtgggtaagagagtatctgccaaggcagggatgtcctggcagaggggcaggctcctggg  
 . . . . .  
 cctggcagcttcagatcccagggtccccagggtcaccactcgcccacctgtgccccag  
 . . . . .  
 |1071 |1081 |1091 |1101 |1111 |1121  
 ATTCACCAAGAGAACATGGGACAGGCTCTCAGCCCCGACATGCTGGCCACTGACCTTGCC  
 I H Q E N M G Q A L S P D M L A T D L A  
 |361 |371  
 . . . . .  
 |1131 |1141 . . . . .  
 TATTACCTGGTCCGCAAAGGGgtaagtgtgtagcagccagggggagggtgaggagatggg  
 Y Y L V R K G  
 |381  
 . . . . .  
 gtgcccccccagagggtgggggagctcaggaatgggtgcaagcggcccagcctgtgtggc  
 . . . . .  
 tcaccctgtaatccagcactttgggaagccgaggtgggcgggtcacttgaggccagga  
 . . . . .  
 gttcgagaccagcctggtcaacatggtgaaacccgtctcttttgatgtaaaaatacaac  
 . . . . .  
 aattagctgggtgtggtggcacactcctgtaatcccagttactcgggaggctgaggcagg  
 . . . . .  
 agaattgattgaactgggagg

Exon 16 | Start: 21768 | End: 21875 | Length: 107

. . . . .  
 gcctggtcaacatggtgaaaccccgctctcttttgatgtaaaaatacaacaattagctggg  
 . . . . .  
 tgtggtggcacactcctgtaatcccagttactcgggaggctgaggcaggagaattgattg  
 . . . . .  
 aactgggagggtggagtttgcggtgaggtagatcgcgccactgcactccagcctgggcaa  
 . . . . .  
 cagagcgagacttttgtgtaaaaagaaaaaaaaaaaaaaggaagggggtgcaggcaat  
 . . . . .  
 ggaggcagatcaggcatggagaaacctgcctcagcgccatcttcctccctggcaccag  
 |1151 |1161 |1171 |1181 |1191 |1201  
 ATGCCATTCCGCCAGGCCACGAGGCCTCCGGGAAAGCTGTGTTTCATGGCCGAGACCAAG  
 M P F R Q A H E A S G K A V F M A E T K  
 |391 |401  
 |1211 |1221 |1231 |1241 . .  
 GGGGTCGCCCTCAACCAGCTGTCACTGCAGGAGCTGCAGACCATCAGgtacggcccatcc  
 G V A L N Q L S L Q E L Q T I S  
 |411  
 . . . . .  
 ccttccccatgctgcctcctaggaagtgagcctgggtgcctggagcccagggtggcctgg  
 . . . . .  
 cgccctggcccacctcttcctctctccccagccccctgttctcgggcgacgtgatctgcg  
 . . . . .  
 tgtgggactacgggcacagtgtggagcagtatggtgccctgggcggcactgcgcgctcca  
 . . . . .  
 gcgtcgactggcagatccgccaggtgcgggcgctactgcaggcacagcaggcctaggtcc  
 . . . . .  
 tcccacacctgccccctaataaagtgggcgcgagaggaggctgctgt

Exon 17 | Start: 21979 | End: 22555 | Length: 576



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. . . . .
aaaaaaaaggaaggggtgcaggcaatggaggcagatcagggcattggagaaacctgcc

. . . . .
tcagcgccatcttctccctggcaccagatgccattccgccaggcccacgaggcctccg

. . . . .
ggaaagctgtgttcatggccgagaccaaggggtcgccctcaaccagctgtcactgcagg

. . . . .
agctgcagaccatcaggtacggccatccccttccccatgctgcctcctaggaagtgagc

. . . . .
ctgggtgcctggagcccagggtggcctggcgccctggcccacctcttctctctccccag

|1251      |1261      |1271      |1281      |1291      |1301
CCCCCTGTTCTCGGGCGACGTGATCTGCGTGTGGGACTACGGGCACAGTGTGGAGCAGTA
P L F S G D V I C V W D Y G H S V E Q Y
          |421                      |431

|1311      |1321      |1331      |1341      |1351      |1361
TGGTGCCCTGGGCGGCACTGCGCGCTCCAGCGTCGACTGGCAGATCCGCCAGGTGCGGGC
G A L G G T A R S S V D W Q I R Q V R A
          |441                      |451

|1371      |1381      |1391|+1      |+11      |+21      |+31
GCTACTGCAGGCACAGCAGGCCTAGGTCCTCCACACCTGCCCCCTAATAAAGTGGGCGC
L L Q A Q Q A *
          |461

          |+41      |+51      |+61      |+71      |+81      |+91
GAGAGGAGGCTGCTGTGTGTTTCCTGCCCCAGCCTGGCTCCCTCGTTGCTGGGCTTTCGG

          |+101     |+111     |+121     |+131     |+141     |+151
GGCTGGCCAGTGGGGACAGTCAGGGACTGGAGAGGCAGGGCAGGGTGGCCTGTAATCCCA

          |+161     |+171     |+181     |+191     |+201     |+211
GCACTTTGGAAGGGCAAGGTGCGAGGATGCTTGAGGCCAGGAGTTTGACACAGCCTGGGC

          |+221     |+231     |+241     |+251     |+261     |+271
AACACAGGGAGACCCCATCTCTACTCAATAATAAAACAAATAGCCTGGCGTGGTGGCCC

          |+281     |+291     |+301     |+311     |+321     |+331
ATGCATATAGTCCCAGCTACTTGTAAGGCTGAGGTGAGAGGACACTTGTGCCCAGGAGTG

          |+341     |+351     |+361     |+371     |+381     |+391

```

GAGGCTGCAGTGAGCTATGATCACGCCACTGCATTCCAGCCTGGATAACAGAGTGAGAAC

          |+401      |+411      |+421      |+431.      .      .  
CTATCTCTAAAAATAAATAAATAAACGAAAAATAAAtggaagcggagaaaactgggcaag

.      .  
ggcaatgagagtcgtagacgggaagggaagaggggctcccatcatagcctctgctctgt

.      .  
ccaggcccatccccttcagacagggtatcacagtgcctcctaggccaggagcgatggc

.      .  
tcacgcctgtaatcctagcattttgggaggcctgggcaacaggaagactccaactacat

.      .  
attaaaaaaacatgaatgaaagcaaaaacaaaacaactagccaaactgggcgcggtggc

.      .  
tcacacctgtaatcccagcactgtaggaggctgagg