Gene: BRCA2 - Sequence: NG_012772.3
Transcript: NM_000059.3 - Protein: NP_000050.2
Date : February 19, 2015

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

```
Exon 1 | Start: 5001 | End: 5188 | Length: 187



.    .    .    .    .    .    .    .    .    .    .    .
tgtcccgagggcgcccacccaaacatgagctggagcaaaaagaaagggatgggggacttg

.    .    .    .    .    .    .    .    .    .    .    .
gagtaggcataggggcggcccctccaagcagggtggcctgggactcttaagggtcagcga

.    .    .    .    .    .    .    .    .    .    .    .
gaagagaacacacactccagctcccgctttattcggtcagatactgacggttgggatgcc

.    .    .    .    .    .    .    .    .    .    .    .
tgacaaggaatttcctttcgccacactgagaaatacccgcagcggcccacccaggcctga

.    .    .    .    .    .    .    .    .    .    .    .
cttccgggtggtgcgtgtgctgcgtgtcgcgtcacggcgtcacgtggccagcgcgggctt

        |-219     |-209     |-199     |-189     |-179     |-169
GTGGCGCGAGCTTCTGAAACTAGGCGGCAGAGGCGGAGCCGCTGTGGCACTGCTGCGCCT

        |-159     |-149     |-139     |-129     |-119     |-109
CTGCTGCGCCTCGGGTGTCTTTTGCGGCGGTGGGTCGCCGCCGGGAGAAGCGTGAGGGGA

        |-99      |-89      |-79      |-69      |-59      |-49
CAGATTTGTGACCGGCGCGGTTTTTGTCAGCTTACTCCGGCCAAAAAAGAACTGCACCTC

           .    .    .    .    .    .    .    .    .    .
TGGAGCGGgttagtggtggtggtagtgggttgggacgagcgcgtcttccgcagtcccagt

  .    .    .    .    .    .    .    .    .    .    .    .
ccagcgtggcgggggagcgcctcacgccccgggtcgctgccgcggcttcttgccctttg

  .    .    .    .    .    .    .    .    .    .    .    .
```

```
tctctgccaacccccacccatgcctgagagaaaggtccttgcccgaaggcagattttcgc

  .    .    .    .    .    .    .    .    .    .    .    .
caagcaaattcgagccccgccccttccctgggtctccatttcccgcctccggcccggcct

  .    .    .    .    .    .    .    .    .    .    .    .
ttgggctccgccttcagctcaagacttaacttccctcccagctgtcccagatgacgccat

  .    .
ctgaaatt
```

Exon 2 | Start: 5943 | End: 6048 | Length: 105

```
.    .    .    .    .    .    .    .    .    .    .    .
ctggagccctctgtccccactagccacgcgtcactggttagcgtgattgaaactaaatcg

.    .    .    .    .    .    .    .    .    .    .    .
tatgaaaatcctcttctctagtcgcactagccacgtttcgagtgcttaatgtggctagtg

.    .    .    .    .    .    .    .    .    .    .    .
gcaccggtttggacagcacagctgtaaaatgttcccatcctcacagtaagctgttaccgt

.    .    .    .    .    .    .    .    .    .    .    .
tccaggagatgggactgaattagaattcaaacaaattttccagcgcttctgagttttacc

.    .    .    .    .    .    .    .    .    .    .    .
tcagtcacataataaggaatgcatccctgtgtaagtgcattttggtcttctgttttgcag

|-39      |-29      |-19      |-9      |1        |11       |21
ACTTATTTACCAAGCATTGGAGGAATATCGTAGGTAAAAATGCCTATTGGATCCAAAGAG
                                      M  P  I  G  S  K  E
                                      |1

         |31       |41       |51       |61       .    .
AGGCCAACATTTTTTGAAATTTTTAAGACACGCTGCAACAAAGCAGgtattgacaaattt
R  P  T  F  F  E  I  F  K  T  R  C  N  K  A  D
         |11                           |21

.    .    .    .    .    .    .    .    .    .    .    .
tatataactttataaattacaccgagaaagtgttttctaaaaaatgcttgctaaaaaccc

.    .    .    .    .    .    .    .    .    .    .    .
```

```
agtacgtcacagtgttgcttagaaccataaactgttccttatgtgtgtataaatccagtt

.    .    .    .    .    .    .    .    .    .    .    .
aacaacataatcatcgtttgcaggttaaccacatgataaatatagaacgtctagtggata

.    .    .    .    .    .    .    .    .    .    .    .
aagaggaaactggccccttgactagcagtaggaacaattactaacaaatcagaagcatta

.    .    .    .    .    .    .    .    .    .
atgttactttatggcagaagttgtccaacttttggtttcagtact
```

Exon 3 | Start: 8598 | End: 8846 | Length: 248

```
.    .    .    .    .    .    .    .    .    .    .    .
ttgattccgaaccatgaataataagaaaataaataaaatttaaatgaaaataaaagctaa

.    .    .    .    .    .    .    .    .    .    .    .
tatatacagcttttaataatatagttaaatgccatcttgtaacttttgtgaactcttgtt

.    .    .    .    .    .    .    .    .    .    .    .
acacctttctatagattcgcaagagaatggattaatgatcttgtttaattaatatgcctt

.    .    .    .    .    .    .    .    .    .    .    .
aacaaaagtaatccatagtcaagatcttaagcatttttttccttatgatctttaactgtt

.    .    .    .    .    .    .    .    .    .    .    .
ctgggtcacaaatttgtctgtcactggttaaaactaaggtgggatttttttttttaaatag

   |71       |81       |91       |101      |111      |121
ATTTAGGACCAATAAGTCTTAATTGGTTTGAAGAACTTTCTTCAGAAGCTCCACCCTATA
  L  G  P  I  S  L  N  W  F  E  E  L  S  S  E  A  P  P  Y  N
                      |31                           |41

   |131      |141      |151      |161      |171      |181
ATTCTGAACCTGCAGAAGAATCTGAACATAAAAACAACAATTACGAACCAAACCTATTTA
  S  E  P  A  E  E  S  E  H  K  N  N  N  Y  E  P  N  L  F  K
                      |51                           |61

   |191      |201      |211      |221      |231      |241
AAACTCCACAAAGGAAACCATCTTATAATCAGCTGGCTTCAACTCCAATAATATTCAAAG
  T  P  Q  R  K  P  S  Y  N  Q  L  A  S  T  P  I  I  F  K  E
                      |71                           |81
```

```
   |251      |261      |271      |281      |291      |301
AGCAAGGGCTGACTCTGCCGCTGTACCAATCTCCTGTAAAAGAATTAGATAAATTCAAAT
  Q  G  L  T  L  P  L  Y  Q  S  P  V  K  E  L  D  K  F  K  L
                        |91                       |101

   |311     .    .    .    .    .    .    .    .    .    .
TAGACTTAGgtaagtaatgcaatatggtagactggggagaactacaaactaggaatttag
  D  L  G


   .    .    .    .    .    .    .    .    .    .    .    .
gcaaacctgtgttaaaatcttagctcattcattaattgtgtcatgctgggcaaatcagtc

   .    .    .    .    .    .    .    .    .    .    .    .
tctctggcctctttttcctcactcgaaaaatggagacgatgaaaataatgtctcataggt

   .    .    .    .    .    .    .    .    .    .    .    .
ttggattaaattaaataatgtaggtacttagtaaatgttctctttcatccctcctttgat

   .    .    .    .    .    .    .    .    .    .    .    .
aaatttgccaactgagatttgctgaattacgtctttcttatgccaaaaaaacctaggact

   .    .
tgttttgat


Exon 4 | Start: 14597 | End: 14705 | Length: 108


.    .    .    .    .    .    .    .    .    .    .    .
caccacaccagcgttttctttgtagaggcagagtctcactctgttgctcaggcaggtgtt

.    .    .    .    .    .    .    .    .    .    .    .
gaactcctgcctcaagcaatcctcccacctcagcctcccagagccctcaaattataagcc

.    .    .    .    .    .    .    .    .    .    .    .
actgtgctcggggcatccttttttgggggggtaatcagcaaactgaaaaacctcttcttaca

.    .    .    .    .    .    .    .    .    .    .    .
actccctatacattctcattcccagtatagaggagacttttttgtttttaaacacttccaa

.    .    .    .    .    .    .    .    .    .    .    .
agaatgcaaatttataatccagagtatatacattctcactgaattattgtactgtttcag
```

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    |321       |331       |341       |351       |361       |371
GAAGGAATGTTCCCAATAGTAGACATAAAAGTCTTCGCACAGTGAAAACTAAAATGGATC
  R  N  V  P  N  S  R  H  K  S  L  R  T  V  K  T  K  M  D  Q
              |111                        |121

    |381       |391       |401       |411       |421     .     .
AAGCAGATGATGTTTCCTGTCCACTTCTAAATTCTTGTCTTAGTGAAAGgtatgatgaag
  A  D  D  V  S  C  P  L  L  N  S  C  L  S  E  S
              |131                        |141

   .     .     .     .     .     .     .     .     .     .     .     .
ctattatattaaaatatttaaatgaaacattttcctacatatatttgttctataaagatg

   .     .     .     .     .     .     .     .     .     .     .     .
aatctgatttttatgctaatattttggctaagagcctggtagaagatcttacatttttaa

   .     .     .     .     .     .     .     .     .     .     .     .
ataatcttttaggttgagtcctttaatagaatagtttttacattagaaacatgtaagttg

   .     .     .     .     .     .     .     .     .     .     .     .
ttgttcttgtgatgttgaattggctggttttctgtatattctgtgatttttttaagtaaca

   .     .     .     .     .     .     .     .     .     .
aaaataacagtggtgaaaagcagtaagtcagtccttgaattatcaattt
```

Exon 5 | Start: 15622 | End: 15671 | Length: 49
BE AWARE: This section overlaps with the following exon

```
.     .     .     .     .     .     .     .     .     .     .     .
gactgctgggattacaggcgtgaaccactgtgcccggcctactttacaaaatttttgagt

.     .     .     .     .     .     .     .     .     .     .     .
ttaaaatacacggtttccagcagctgaaatttgtgagtacatatgtgttggcattttaaa

.     .     .     .     .     .     .     .     .     .     .     .
catcacttgatgattatttaatgcttcatgagagatttacttttttaaaatgtaatataaa

.     .     .     .     .     .     .     .     .     .     .     .
atatctaaaagtagtattccaacaatttatatgaatgagaatcttcttttaaaaataaga

.     .     .     .     .     .     .     .     .     .     .     .
```

```
taaactagtttttgccagtttttttaaaataacctaagggatttgctttgttttattttag

     |431      |441      |451      |461      |471     .     .
TCCTGTTGTTCTACAATGTACACATGTAACACCACAAAGAGATAAGTCAGgtatgattaa
 P  V  V  L  Q  C  T  H  V  T  P  Q  R  D  K  S  V
                        |151

    .    .    .    .    .    .    .    .    .    .    .    .
aaacaatgctttttattcttagaatactagaaatgttaataaaaataaaacttaacaatt

    .    .    .    .    .    .    .    .    .    .    .    .
ttccccttttttttaccccccagtggtatgtgggagtttgtttcatacaccaaagtttgtga

    .    .    .    .    .    .    .    .    .    .    .    .
aggtaaatattctacctggtttatttttatgacttagtaattgagaatttgacaatagcg

    .    .    .    .    .    .    .    .    .    .    .    .
ttatacctttgccctgagatttacaaatctgtacctagcattctgcctcatacaggcaat

    .    .    .    .    .    .    .    .    .    .
tcagtaaacgttaagtgaaataaagagtgaatgaaaaaataatatcctta



Exon 6 | Start: 15763 | End: 15803 | Length: 40
BE AWARE: This section overlaps with the following exon



.    .    .    .    .    .    .    .    .    .    .    .
tgcttcatgagagatttacttttttaaaatgtaatataaaatatctaaaagtagtattcca

.    .    .    .    .    .    .    .    .    .    .    .
acaatttatatgaatgagaatcttctttttaaaaataagataaactagtttttgccagttt

.    .    .    .    .    .    .    .    .    .    .    .
tttaaaataacctaagggatttgctttgttttatttttagtcctgttgttctacaatgtac

.    .    .    .    .    .    .    .    .    .    .    .
acatgtaacaccacaaagagataagtcaggtatgattaaaaacaatgctttttattctta

.    .    .    .    .    .    .    .    .    .    .    .
gaatactagaaatgttaataaaaataaaacttaacaattttccccttttttttaccccag

     |481      |491      |501      |511      .    .    .
TGGTATGTGGGAGTTTGTTTCATACACCAAAGTTTGTGAAGgtaaatattctacctggtt
```

```
  V  C  G  S  L  F  H  T  P  K  F  V  K
     |161                        |171

.    .    .    .    .    .    .    .    .    .    .    .
tatttttatgacttagtaattgagaatttgacaatagcgttatacctttgccctgagatt

.    .    .    .    .    .    .    .    .    .    .    .
tacaaatctgtacctagcattctgcctcatacaggcaattcagtaaacgttaagtgaaat

.    .    .    .    .    .    .    .    .    .    .    .
aaagagtgaatgaaaaaataatatccttaatgatcagggcatttctataaaaaataaact

.    .    .    .    .    .    .    .    .    .    .    .
attttctttcctcccagggtcgtcagacaccaaaacatatttctgaaagtctaggagctg

.    .    .    .    .    .    .    .    .
aggtggatcctgatatgtcttggtcaagttctttagctaca
```

Exon 7 | Start: 16020 | End: 16134 | Length: 114

```
.    .    .    .    .    .    .    .    .    .    .    .
ataaaaataaaacttaacaattttccccttttttttaccccagtggtatgtgggagtttg

.    .    .    .    .    .    .    .    .    .    .    .
tttcatacaccaaagtttgtgaaggtaaatattctacctggtttatttttatgacttagt

.    .    .    .    .    .    .    .    .    .    .    .
aattgagaatttgacaatagcgttatacctttgccctgagatttacaaatctgtacctag

.    .    .    .    .    .    .    .    .    .    .    .
cattctgcctcatacaggcaattcagtaaacgttaagtgaaataaagagtgaatgaaaaa

.    .    .    .    .    .    .    .    .    .    .    .
ataatatccttaatgatcagggcatttctataaaaaataaactattttctttcctcccag

    |521      |531      |541      |551      |561      |571
GGTCGTCAGACACCAAAACATATTTCTGAAAGTCTAGGAGCTGAGGTGGATCCTGATATG
G  R  Q  T  P  K  H  I  S  E  S  L  G  A  E  V  D  P  D  M
                       |181                        |191

    |581      |591      |601      |611      |621      |631 .
TCTTGGTCAAGTTCTTTAGCTACACCACCCACCCTTAGTTCTACTGTGCTCATAGgtaat
```

```
S  W  S  S  S  L  A  T  P  P  T  L  S  S  T  V  L  I  V
                        |201                        |211

    .     .     .     .     .     .     .     .     .     .     .
aatagcaaatgtgtatttacaagaaagagcagatgaggttgataattgtcatctctaata

    .     .     .     .     .     .     .     .     .     .     .
cttctgttaaaaggaaatatgaaaagaaaatattagataatgtctttgataagtgtgtta

    .     .     .     .     .     .     .     .     .     .     .
gtaactgacaataattttattctattaagtgtagattggaataaatacaaatacatttag

    .     .     .     .     .     .     .     .     .     .     .
tggtagtccagtggtgtcaagcattatgttttagtacgatgtgattaacgtagaatagct

    .     .     .     .     .     .     .     .     .     .
tacaaatattcctttactggcctatataagcgtttaagaggcagtatttggtgtg


Exon 8 | Start: 18964 | End: 19013 | Length: 49


.     .     .     .     .     .     .     .     .     .     .
ttaagtcataacctcacagcatcatctgactttccaactcattgtggacagtattaccat

.     .     .     .     .     .     .     .     .     .     .
aaagtaatgatcaccaagccatatcttaccaccttgtgagtagtactaaggaagtaagta

.     .     .     .     .     .     .     .     .     .     .
tagtttattcactgtgttgattgacctttctaattactatacttaagtacttgaatcaat

.     .     .     .     .     .     .     .     .     .     .
tcattttgtttcaaatgtgtcatgtaatcaaatagtagatgtgctttttgatgtctgaca

.     .     .     .     .     .     .     .     .     .     .
aaaaataagtttttgcattctagtgataatatacaatacacataaatttttatcttacag

         |641       |651       |661       |671       |681 .     .
TCAGAAATGAAGAAGCATCTGAAACTGTATTTCCTCATGATACTACTGCTgtaagtaaat
  R  N  E  E  A  S  E  T  V  F  P  H  D  T  T  A
                           |221

    .     .     .     .     .     .     .     .     .     .     .
atgacattgattagactgttgaaattgctaacaattttggaatgccttgttaaattattt
```

```
    .    .    .    .    .    .    .    .    .    .    .    .
atcttacatttttaatttcctaatctgtaatttatctaagcctttgagaaagtctctaaa

    .    .    .    .    .    .    .    .    .    .    .    .
cctggtcctatatgtgattttaacttcctgtgaaactctgctgtctctctgttaaagttg

    .    .    .    .    .    .    .    .    .    .    .    .
catatatacaatatataccgtagtcccctattcatggggtatacattccaatatccccca

    .    .    .    .    .    .    .    .    .    .
gtgaatgcttgaaaccttagatagtaccgaaccctatatatatatattaa
```

Exon 9 | Start: 20440 | End: 20551 | Length: 111

```
.    .    .    .    .    .    .    .    .    .    .    .
attcatgtcccaagtgggatggagcaagatggtgcaagtttttttttctccatttccatt

.    .    .    .    .    .    .    .    .    .    .    .
ttcctttcctaagatttccacatcctagtggtgcaagatttcatcacactactcaggatg

.    .    .    .    .    .    .    .    .    .    .    .
acacacaatttaaaacttactaattgcttacttctggaattttccattaaaaatttttgg

.    .    .    .    .    .    .    .    .    .    .    .
acctaggttgattgcagataactgaaatcaccaaaagtgaaaccatggataaggggggac

.    .    .    .    .    .    .    .    .    .    .    .
tactactatatgtgcattgagagtttttatactagtgattttaaactataatttttgcag

         |691      |701      |711      |721      |731      |741
AATGTGAAAAGCTATTTTTCCAATCATGATGAAAGTCTGAAGAAAAATGATAGATTTATC
N  V  K  S  Y  F  S  N  H  D  E  S  L  K  K  N  D  R  F  I
         |231                        |241

         |751      |761      |771      |781      |791   .
GCTTCTGTGACAGACAGTGAAAACACAAATCAAAGAGAAGCTGCAAGTCATGgtaagtcc
A  S  V  T  D  S  E  N  T  N  Q  R  E  A  A  S  H  G
         |251                        |261

 .    .    .    .    .    .    .    .    .    .    .    .
tctgtttagttgaactacaggtttttttgttgttgttgttttgatttttttttttttgagg
```

```
 .    .    .    .    .    .    .    .    .    .    .    .
tggagtcttgctctgtcacccgtgatctcggtttaccgcaacctctgcctcccgtgctca

 .    .    .    .    .    .    .    .    .    .    .    .
agcgatcctgcctcagcttgccaagtagctgagattacaagcatgcaccaccatgcccaa

 .    .    .    .    .    .    .    .    .    .    .    .
ctattgtatttttagtagagatggcatttcaccatgttggccaggctggtctcaaatggt

 .    .    .    .    .    .    .    .    .    .    .
cgtgagccaccatgcccagcctgaactactctttttaattggcaccattgaa
```

Exon 10 | Start: 21793 | End: 22908 | Length: 1115

```
.    .    .    .    .    .    .    .    .    .    .    .
agtaagattaggtgagttttaattgtgtagaactgctaaagaaaggtttttagggattgt

.    .    .    .    .    .    .    .    .    .    .    .
tgtatgaataaaaggctttaggttcattggaatcaggggaatcaggctttactagaagaa

.    .    .    .    .    .    .    .    .    .    .    .
caggagaaggggtgactgaccgaaaaataaaatgccaagtactcagaataacccttaaa

.    .    .    .    .    .    .    .    .    .    .    .
tactgatatgtaatatttagcacattctacataaactgtttctatgagaaaggttgtgag

.    .    .    .    .    .    .    .    .    .    .    .
aataatataaattatatggcttataaaatattaatgtgcttctgttttatactttaacag

       |801      |811      |821      |831      |841      |851
GATTTGGAAAAACATCAGGGAATTCATTTAAAGTAAATAGCTGCAAAGACCACATTGGAA
  F  G  K  T  S  G  N  S  F  K  V  N  S  C  K  D  H  I  G  K
                |271                        |281

       |861      |871      |881      |891      |901      |911
AGTCAATGCCAAATGTCCTAGAAGATGAAGTATATGAAACAGTTGTAGATACCTCTGAAG
  S  M  P  N  V  L  E  D  E  V  Y  E  T  V  V  D  T  S  E  E
                |291                        |301

       |921      |931      |941      |951      |961      |971
AAGATAGTTTTTCATTATGTTTTTCTAAATGTAGAACAAAAAATCTACAAAAAGTAAGAA
```

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  D  S  F  S  L  C  F  S  K  C  R  T  K  N  L  Q  K  V  R  T
                |311                        |321

      |981      |991      |1001     |1011     |1021     |1031
CTAGCAAGACTAGGAAAAAAATTTTCCATGAAGCAAACGCTGATGAATGTGAAAAATCTA
  S  K  T  R  K  K  I  F  H  E  A  N  A  D  E  C  E  K  S  K
                |331                        |341

      |1041     |1051     |1061     |1071     |1081     |1091
AAAACCAAGTGAAAGAAAAATACTCATTTGTATCTGAAGTGGAACCAAATGATACTGATC
  N  Q  V  K  E  K  Y  S  F  V  S  E  V  E  P  N  D  T  D  P
                |351                        |361

      |1101     |1111     |1121     |1131     |1141     |1151
CATTAGATTCAAATGTAGCAAATCAGAAGCCCTTTGAGAGTGGAAGTGACAAAATCTCCA
  L  D  S  N  V  A  N  Q  K  P  F  E  S  G  S  D  K  I  S  K
                |371                        |381

      |1161     |1171     |1181     |1191     |1201     |1211
AGGAAGTTGTACCGTCTTTGGCCTGTGAATGGTCTCAACTAACCCTTTCAGGTCTAAATG
  E  V  V  P  S  L  A  C  E  W  S  Q  L  T  L  S  G  L  N  G
                |391                        |401

      |1221     |1231     |1241     |1251     |1261     |1271
GAGCCCAGATGGAGAAAATACCCCTATTGCATATTTCTTCATGTGACCAAAATATTTCAG
  A  Q  M  E  K  I  P  L  L  H  I  S  S  C  D  Q  N  I  S  E
                |411                        |421

      |1281     |1291     |1301     |1311     |1321     |1331
AAAAAGACCTATTAGACACAGAGAACAAAAGAAAGAAAGATTTTCTTACTTCAGAGAATT
  K  D  L  L  D  T  E  N  K  R  K  K  D  F  L  T  S  E  N  S
                |431                        |441

      |1341     |1351     |1361     |1371     |1381     |1391
CTTTGCCACGTATTTCTAGCCTACCAAAATCAGAGAAGCCATTAAATGAGGAAACAGTGG
  L  P  R  I  S  S  L  P  K  S  E  K  P  L  N  E  E  T  V  V
                |451                        |461

      |1401     |1411     |1421     |1431     |1441     |1451
TAAATAAGAGAGATGAAGAGCAGCATCTTGAATCTCATACAGACTGCATTCTTGCAGTAA
  N  K  R  D  E  E  Q  H  L  E  S  H  T  D  C  I  L  A  V  K
                |471                        |481

      |1461     |1471     |1481     |1491     |1501     |1511
AGCAGGCAATATCTGGAACTTCTCCAGTGGCTTCTTCATTTCAGGGTATCAAAAAGTCTA
  Q  A  I  S  G  T  S  P  V  A  S  S  F  Q  G  I  K  K  S  I
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                |491                          |501

      |1521     |1531     |1541     |1551     |1561     |1571
TATTCAGAATAAGAGAATCACCTAAAGAGACTTTCAATGCAAGTTTTTCAGGTCATATGA
  F  R  I  R  E  S  P  K  E  T  F  N  A  S  F  S  G  H  M  T
                |511                          |521

      |1581     |1591     |1601     |1611     |1621     |1631
CTGATCCAAACTTTAAAAAAGAAACTGAAGCCTCTGAAAGTGGACTGGAAATACATACTG
  D  P  N  F  K  K  E  T  E  A  S  E  S  G  L  E  I  H  T  V
                |531                          |541

      |1641     |1651     |1661     |1671     |1681     |1691
TTTGCTCACAGAAGGAGGACTCCTTATGTCCAAATTTAATTGATAATGGAAGCTGGCCAG
  C  S  Q  K  E  D  S  L  C  P  N  L  I  D  N  G  S  W  P  A
                |551                          |561

      |1701     |1711     |1721     |1731     |1741     |1751
CCACCACCACACAGAATTCTGTAGCTTTGAAGAATGCAGGTTTAATATCCACTTTGAAAA
  T  T  T  Q  N  S  V  A  L  K  N  A  G  L  I  S  T  L  K  K
                |571                          |581

      |1761     |1771     |1781     |1791     |1801     |1811
AGAAAACAAATAAGTTTATTTATGCTATACATGATGAAACATCTTATAAAGGAAAAAAAA
  K  T  N  K  F  I  Y  A  I  H  D  E  T  S  Y  K  G  K  K  I
                |591                          |601

      |1821     |1831     |1841     |1851     |1861     |1871
TACCGAAAGACCAAAAATCAGAACTAATTAACTGTTCAGCCCAGTTTGAAGCAAATGCTT
  P  K  D  Q  K  S  E  L  I  N  C  S  A  Q  F  E  A  N  A  F
                |611                          |621

      |1881     |1891     |1901        .    .    .    .
TTGAAGCACCACTTACATTTGCAAATGCTGATTCAGgtacctctgtctttttttttttgt
  E  A  P  L  T  F  A  N  A  D  S  G
                |631

.    .    .    .    .    .    .    .    .    .    .    .
aaatagtacatatagtttatagatgacgattccttctgtgttttttctgctttttaaa

.    .    .    .    .    .    .    .    .    .    .    .
atcttcatatcttatatttaatcttaggcatcatctgtatacatgattgtttaggtcttt

.    .    .    .    .    .    .    .    .    .    .    .
aattaccagtgtttagaatcaggtcactcaaacatggtagataagtttgcatagtttgtg
```

```
.    .    .    .    .    .    .    .    .    .    .    .
tatatccatcactcttgagacagttttatttaagttccggggtacatgtgcaggatgtg

.    .    .    .    .    .    .    .
caggtttgttacataagtaaacgtatgccatgttgg
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Exon 11 | Start: 25786 | End: 30717 | Length: 4931

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.    .    .    .    .    .    .    .    .    .    .    .
tcaccctcctgggctcaagcagtccttgcacctcaccctcctgagtaactggcaccacag

.    .    .    .    .    .    .    .    .    .    .    .
gcatacaccaccacacccagctaatttttatttttcatagagtcatggtctcactatgtt

.    .    .    .    .    .    .    .    .    .    .    .
gcccaggctagtctcgaactcctgggctcaagcagtcttcctgcctcagcctcccaaaag

.    .    .    .    .    .    .    .    .    .    .    .
tgctgagattacaggcatgagccactgtgcccaaacactacctttttaacttagtgaaaa

.    .    .    .    .    .    .    .    .    .    .    .
atatttagtgaatgtgattgatggtactttaattttgtcactttgtgtttttatgtttag

 |1911     |1921     |1931     |1941     |1951     |1961
GTTTATTGCATTCTTCTGTGAAAAGAAGCTGTTCACAGAATGATTCTGAAGAACCAACTT
  L  L  H  S  S  V  K  R  S  C  S  Q  N  D  S  E  E  P  T  L
          |641                       |651

 |1971     |1981     |1991     |2001     |2011     |2021
TGTCCTTAACTAGCTCTTTTGGGACAATTCTGAGGAAATGTTCTAGAAATGAAACATGTT
  S  L  T  S  S  F  G  T  I  L  R  K  C  S  R  N  E  T  C  S
          |661                       |671

 |2031     |2041     |2051     |2061     |2071     |2081
CTAATAATACAGTAATCTCTCAGGATCTTGATTATAAAGAAGCAAAATGTAATAAGGAAA
  N  N  T  V  I  S  Q  D  L  D  Y  K  E  A  K  C  N  K  E  K
          |681                       |691

 |2091     |2101     |2111     |2121     |2131     |2141
AACTACAGTTATTTATTACCCCAGAAGCTGATTCTCTGTCATGCCTGCAGGAAGGACAGT
  L  Q  L  F  I  T  P  E  A  D  S  L  S  C  L  Q  E  G  Q  C
          |701                       |711
```

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 |2151     |2161     |2171     |2181     |2191     |2201
GTGAAAATGATCCAAAAAGCAAAAAAGTTTCAGATATAAAAGAAGAGGTCTTGGCTGCAG
  E  N  D  P  K  S  K  K  V  S  D  I  K  E  E  V  L  A  A  A
          |721                      |731

 |2211     |2221     |2231     |2241     |2251     |2261
CATGTCACCCAGTACAACATTCAAAAGTGGAATACAGTGATACTGACTTTCAATCCCAGA
  C  H  P  V  Q  H  S  K  V  E  Y  S  D  T  D  F  Q  S  Q  K
          |741                      |751

 |2271     |2281     |2291     |2301     |2311     |2321
AAAGTCTTTTATATGATCATGAAAATGCCAGCACTCTTATTTTAACTCCTACTTCCAAGG
  S  L  L  Y  D  H  E  N  A  S  T  L  I  L  T  P  T  S  K  D
          |761                      |771

 |2331     |2341     |2351     |2361     |2371     |2381
ATGTTCTGTCAAACCTAGTCATGATTTCTAGAGGCAAAGAATCATACAAAATGTCAGACA
  V  L  S  N  L  V  M  I  S  R  G  K  E  S  Y  K  M  S  D  K
          |781                      |791

 |2391     |2401     |2411     |2421     |2431     |2441
AGCTCAAAGGTAACAATTATGAATCTGATGTTGAATTAACCAAAAATATTCCCATGGAAA
  L  K  G  N  N  Y  E  S  D  V  E  L  T  K  N  I  P  M  E  K
          |801                      |811

 |2451     |2461     |2471     |2481     |2491     |2501
AGAATCAAGATGTATGTGCTTTAAATGAAAATTATAAAAACGTTGAGCTGTTGCCACCTG
  N  Q  D  V  C  A  L  N  E  N  Y  K  N  V  E  L  L  P  P  E
          |821                      |831

 |2511     |2521     |2531     |2541     |2551     |2561
AAAAATACATGAGAGTAGCATCACCTTCAAGAAAGGTACAATTCAACCAAAACACAAATC
  K  Y  M  R  V  A  S  P  S  R  K  V  Q  F  N  Q  N  T  N  L
          |841                      |851

 |2571     |2581     |2591     |2601     |2611     |2621
TAAGAGTAATCCAAAAAAAATCAAGAAGAAACTACTTCAATTTCAAAAATAACTGTCAATC
  R  V  I  Q  K  N  Q  E  E  T  T  S  I  S  K  I  T  V  N  P
          |861                      |871

 |2631     |2641     |2651     |2661     |2671     |2681
CAGACTCTGAAGAACTTTTCTCAGACAATGAGAATAATTTTGTCTTCCAAGTAGCTAATG
  D  S  E  E  L  F  S  D  N  E  N  N  F  V  F  Q  V  A  N  E
          |881                      |891
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 |2691     |2701     |2711     |2721     |2731     |2741
AAAGGAATAATCTTGCTTTAGGAAATACTAAGGAACTTCATGAAACAGACTTGACTTGTG
  R  N  N  L  A  L  G  N  T  K  E  L  H  E  T  D  L  T  C  V
          |901                      |911

 |2751     |2761     |2771     |2781     |2791     |2801
TAAACGAACCCATTTTCAAGAACTCTACCATGGTTTTATATGGAGACACAGGTGATAAAC
  N  E  P  I  F  K  N  S  T  M  V  L  Y  G  D  T  G  D  K  Q
          |921                      |931

 |2811     |2821     |2831     |2841     |2851     |2861
AAGCAACCCAAGTGTCAATTAAAAAAGATTTGGTTTATGTTCTTGCAGAGGAGAACAAAA
  A  T  Q  V  S  I  K  K  D  L  V  Y  V  L  A  E  E  N  K  N
          |941                      |951

 |2871     |2881     |2891     |2901     |2911     |2921
ATAGTGTAAAGCAGCATATAAAAATGACTCTAGGTCAAGATTTAAAATCGGACATCTCCT
  S  V  K  Q  H  I  K  M  T  L  G  Q  D  L  K  S  D  I  S  L
          |961                      |971

 |2931     |2941     |2951     |2961     |2971     |2981
TGAATATAGATAAAATACCAGAAAAAAATAATGATTACATGAACAAATGGGCAGGACTCT
  N  I  D  K  I  P  E  K  N  N  D  Y  M  N  K  W  A  G  L  L
          |981                      |991

 |2991     |3001     |3011     |3021     |3031     |3041
TAGGTCCAATTTCAAATCACAGTTTTGGAGGTAGCTTCAGAACAGCTTCAAATAAGGAAA
  G  P  I  S  N  H  S  F  G  G  S  F  R  T  A  S  N  K  E  I
          |1001                     |1011

 |3051     |3061     |3071     |3081     |3091     |3101
TCAAGCTCTCTGAACATAACATTAAGAAGAGCAAAATGTTCTTCAAAGATATTGAAGAAC
  K  L  S  E  H  N  I  K  K  S  K  M  F  F  K  D  I  E  E  Q
          |1021                     |1031

 |3111     |3121     |3131     |3141     |3151     |3161
AATATCCTACTAGTTTAGCTTGTGTTGAAATTGTAAATACCTTGGCATTAGATAATCAAA
  Y  P  T  S  L  A  C  V  E  I  V  N  T  L  A  L  D  N  Q  K
          |1041                     |1051

 |3171     |3181     |3191     |3201     |3211     |3221
AGAAACTGAGCAAGCCTCAGTCAATTAATACTGTATCTGCACATTTACAGAGTAGTGTAG
  K  L  S  K  P  Q  S  I  N  T  V  S  A  H  L  Q  S  S  V  V
          |1061                     |1071

 |3231     |3241     |3251     |3261     |3271     |3281
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TTGTTTCTGATTGTAAAAATAGTCATATAACCCCTCAGATGTTATTTTCCAAGCAGGATT
  V  S  D  C  K  N  S  H  I  T  P  Q  M  L  F  S  K  Q  D  F
           |1081                        |1091

 |3291     |3301     |3311     |3321     |3331     |3341
TTAATTCAAACCATAATTTAACACCTAGCCAAAAGGCAGAAATTACAGAACTTTCTACTA
  N  S  N  H  N  L  T  P  S  Q  K  A  E  I  T  E  L  S  T  I
           |1101                        |1111

 |3351     |3361     |3371     |3381     |3391     |3401
TATTAGAAGAATCAGGAAGTCAGTTTGAATTTACTCAGTTTAGAAAACCAAGCTACATAT
  L  E  E  S  G  S  Q  F  E  F  T  Q  F  R  K  P  S  Y  I  L
           |1121                        |1131

 |3411     |3421     |3431     |3441     |3451     |3461
TGCAGAAGAGTACATTTGAAGTGCCTGAAAACCAGATGACTATCTTAAAGACCACTTCTG
  Q  K  S  T  F  E  V  P  E  N  Q  M  T  I  L  K  T  T  S  E
           |1141                        |1151

 |3471     |3481     |3491     |3501     |3511     |3521
AGGAATGCAGAGATGCTGATCTTCATGTCATAATGAATGCCCCATCGATTGGTCAGGTAG
  E  C  R  D  A  D  L  H  V  I  M  N  A  P  S  I  G  Q  V  D
           |1161                        |1171

 |3531     |3541     |3551     |3561     |3571     |3581
ACAGCAGCAAGCAATTTGAAGGTACAGTTGAAATTAAACGGAAGTTTGCTGGCCTGTTGA
  S  S  K  Q  F  E  G  T  V  E  I  K  R  K  F  A  G  L  L  K
           |1181                        |1191

 |3591     |3601     |3611     |3621     |3631     |3641
AAAATGACTGTAACAAAAGTGCTTCTGGTTATTTAACAGATGAAAATGAAGTGGGGTTTA
  N  D  C  N  K  S  A  S  G  Y  L  T  D  E  N  E  V  G  F  R
           |1201                        |1211

 |3651     |3661     |3671     |3681     |3691     |3701
GGGGCTTTTATTCTGCTCATGGCACAAAACTGAATGTTTCTACTGAAGCTCTGCAAAAAG
  G  F  Y  S  A  H  G  T  K  L  N  V  S  T  E  A  L  Q  K  A
           |1221                        |1231

 |3711     |3721     |3731     |3741     |3751     |3761
CTGTGAAACTGTTTAGTGATATTGAGAATATTAGTGAGGAAACTTCTGCAGAGGTACATC
  V  K  L  F  S  D  I  E  N  I  S  E  E  T  S  A  E  V  H  P
           |1241                        |1251

 |3771     |3781     |3791     |3801     |3811     |3821
CAATAAGTTTATCTTCAAGTAAATGTCATGATTCTGTTGTTTCAATGTTTAAGATAGAAA
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  I  S  L  S  S  S  K  C  H  D  S  V  V  S  M  F  K  I  E  N
           |1261                       |1271

 |3831     |3841     |3851     |3861     |3871     |3881
ATCATAATGATAAAACTGTAAGTGAAAAAAATAATAAATGCCAACTGATATTACAAAATA
  H  N  D  K  T  V  S  E  K  N  N  K  C  Q  L  I  L  Q  N  N
           |1281                       |1291

 |3891     |3901     |3911     |3921     |3931     |3941
ATATTGAAATGACTACTGGCACTTTTGTTGAAGAAATTACTGAAAATTACAAGAGAAATA
  I  E  M  T  T  G  T  F  V  E  E  I  T  E  N  Y  K  R  N  T
           |1301                       |1311

 |3951     |3961     |3971     |3981     |3991     |4001
CTGAAAATGAAGATAACAAATATACTGCTGCCAGTAGAAATTCTCATAACTTAGAATTTG
  E  N  E  D  N  K  Y  T  A  A  S  R  N  S  H  N  L  E  F  D
           |1321                       |1331

 |4011     |4021     |4031     |4041     |4051     |4061
ATGGCAGTGATTCAAGTAAAAATGATACTGTTTGTATTCATAAAGATGAAACGGACTTGC
  G  S  D  S  S  K  N  D  T  V  C  I  H  K  D  E  T  D  L  L
           |1341                       |1351

 |4071     |4081     |4091     |4101     |4111     |4121
TATTTACTGATCAGCACAACATATGTCTTAAATTATCTGGCCAGTTTATGAAGGAGGGAA
  F  T  D  Q  H  N  I  C  L  K  L  S  G  Q  F  M  K  E  G  N
           |1361                       |1371

 |4131     |4141     |4151     |4161     |4171     |4181
ACACTCAGATTAAAGAAGATTTGTCAGATTTAACTTTTTTGGAAGTTGCGAAAGCTCAAG
  T  Q  I  K  E  D  L  S  D  L  T  F  L  E  V  A  K  A  Q  E
           |1381                       |1391

 |4191     |4201     |4211     |4221     |4231     |4241
AAGCATGTCATGGTAATACTTCAAATAAAGAACAGTTAACTGCTACTAAAACGGAGCAAA
  A  C  H  G  N  T  S  N  K  E  Q  L  T  A  T  K  T  E  Q  N
           |1401                       |1411

 |4251     |4261     |4271     |4281     |4291     |4301
ATATAAAAGATTTTGAGACTTCTGATACATTTTTTCAGACTGCAAGTGGGAAAAATATTA
  I  K  D  F  E  T  S  D  T  F  F  Q  T  A  S  G  K  N  I  S
           |1421                       |1431

 |4311     |4321     |4331     |4341     |4351     |4361
GTGTCGCCAAAGAGTCATTTAATAAAATTGTAAATTTCTTTGATCAGAAACCAGAAGAAT
  V  A  K  E  S  F  N  K  I  V  N  F  F  D  Q  K  P  E  E  L
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          |1441                          |1451

 |4371     |4381     |4391     |4401     |4411     |4421
TGCATAACTTTTCCTTAAATTCTGAATTACATTCTGACATAAGAAAGAACAAAATGGACA
  H  N  F  S  L  N  S  E  L  H  S  D  I  R  K  N  K  M  D  I
          |1461                          |1471

 |4431     |4441     |4451     |4461     |4471     |4481
TTCTAAGTTATGAGGAAACAGACATAGTTAAACACAAAATACTGAAAGAAAGTGTCCCAG
  L  S  Y  E  E  T  D  I  V  K  H  K  I  L  K  E  S  V  P  V
          |1481                          |1491

 |4491     |4501     |4511     |4521     |4531     |4541
TTGGTACTGGAAATCAACTAGTGACCTTCCAGGGACAACCCGAACGTGATGAAAAGATCA
  G  T  G  N  Q  L  V  T  F  Q  G  Q  P  E  R  D  E  K  I  K
          |1501                          |1511

 |4551     |4561     |4571     |4581     |4591     |4601
AAGAACCTACTCTATTGGGTTTTCATACAGCTAGCGGGAAAAAAGTTAAAATTGCAAAGG
  E  P  T  L  L  G  F  H  T  A  S  G  K  K  V  K  I  A  K  E
          |1521                          |1531

 |4611     |4621     |4631     |4641     |4651     |4661
AATCTTTGGACAAAGTGAAAAACCTTTTTGATGAAAAAGAGCAAGGTACTAGTGAAATCA
  S  L  D  K  V  K  N  L  F  D  E  K  E  Q  G  T  S  E  I  T
          |1541                          |1551

 |4671     |4681     |4691     |4701     |4711     |4721
CCAGTTTTAGCCATCAATGGGCAAAGACCCTAAAGTACAGAGAGGCCTGTAAAGACCTTG
  S  F  S  H  Q  W  A  K  T  L  K  Y  R  E  A  C  K  D  L  E
          |1561                          |1571

 |4731     |4741     |4751     |4761     |4771     |4781
AATTAGCATGTGAGACCATTGAGATCACAGCTGCCCCAAAGTGTAAAGAAATGCAGAATT
  L  A  C  E  T  I  E  I  T  A  A  P  K  C  K  E  M  Q  N  S
          |1581                          |1591

 |4791     |4801     |4811     |4821     |4831     |4841
CTCTCAATAATGATAAAAACCTTGTTTCTATTGAGACTGTGGTGCCACCTAAGCTCTTAA
  L  N  N  D  K  N  L  V  S  I  E  T  V  V  P  P  K  L  L  S
          |1601                          |1611

 |4851     |4861     |4871     |4881     |4891     |4901
GTGATAATTTATGTAGACAAACTGAAAATCTCAAAACATCAAAAAGTATCTTTTTGAAAG
  D  N  L  C  R  Q  T  E  N  L  K  T  S  K  S  I  F  L  K  V
          |1621                          |1631
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 |4911     |4921     |4931     |4941     |4951     |4961
TTAAAGTACATGAAAATGTAGAAAAAGAAACAGCAAAAAGTCCTGCAACTTGTTACACAA
  K  V  H  E  N  V  E  K  E  T  A  K  S  P  A  T  C  Y  T  N
          |1641                       |1651

 |4971     |4981     |4991     |5001     |5011     |5021
ATCAGTCCCCTTATTCAGTCATTGAAAATTCAGCCTTAGCTTTTTACACAAGTTGTAGTA
  Q  S  P  Y  S  V  I  E  N  S  A  L  A  F  Y  T  S  C  S  R
          |1661                       |1671

 |5031     |5041     |5051     |5061     |5071     |5081
GAAAAACTTCTGTGAGTCAGACTTCATTACTTGAAGCAAAAAAATGGCTTAGAGAAGGAA
  K  T  S  V  S  Q  T  S  L  L  E  A  K  K  W  L  R  E  G  I
          |1681                       |1691

 |5091     |5101     |5111     |5121     |5131     |5141
TATTTGATGGTCAACCAGAAAGAATAAATACTGCAGATTATGTAGGAAATTATTTGTATG
  F  D  G  Q  P  E  R  I  N  T  A  D  Y  V  G  N  Y  L  Y  E
          |1701                       |1711

 |5151     |5161     |5171     |5181     |5191     |5201
AAAATAATTCAAACAGTACTATAGCTGAAAATGACAAAAATCATCTCTCCGAAAAACAAG
  N  N  S  N  S  T  I  A  E  N  D  K  N  H  L  S  E  K  Q  D
          |1721                       |1731

 |5211     |5221     |5231     |5241     |5251     |5261
ATACTTATTTAAGTAACAGTAGCATGTCTAACAGCTATTCCTACCATTCTGATGAGGTAT
  T  Y  L  S  N  S  S  M  S  N  S  Y  S  Y  H  S  D  E  V  Y
          |1741                       |1751

 |5271     |5281     |5291     |5301     |5311     |5321
ATAATGATTCAGGATATCTCTCAAAAAATAAACTTGATTCTGGTATTGAGCCAGTATTGA
  N  D  S  G  Y  L  S  K  N  K  L  D  S  G  I  E  P  V  L  K
          |1761                       |1771

 |5331     |5341     |5351     |5361     |5371     |5381
AGAATGTTGAAGATCAAAAAAACACTAGTTTTTCCAAAGTAATATCCAATGTAAAAGATG
  N  V  E  D  Q  K  N  T  S  F  S  K  V  I  S  N  V  K  D  A
          |1781                       |1791

 |5391     |5401     |5411     |5421     |5431     |5441
CAAATGCATACCCACAAACTGTAAATGAAGATATTTGCGTTGAGGAACTTGTGACTAGCT
  N  A  Y  P  Q  T  V  N  E  D  I  C  V  E  E  L  V  T  S  S
          |1801                       |1811
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 |5451     |5461     |5471     |5481     |5491     |5501
CTTCACCCTGCAAAAATAAAAATGCAGCCATTAAATTGTCCATATCTAATAGTAATAATT
  S  P  C  K  N  K  N  A  A  I  K  L  S  I  S  N  S  N  N  F
          |1821                       |1831

 |5511     |5521     |5531     |5541     |5551     |5561
TTGAGGTAGGGCCACCTGCATTTAGGATAGCCAGTGGTAAAATCGTTTGTGTTTCACATG
  E  V  G  P  P  A  F  R  I  A  S  G  K  I  V  C  V  S  H  E
          |1841                       |1851

 |5571     |5581     |5591     |5601     |5611     |5621
AAACAATTAAAAAAGTGAAAGACATATTTACAGACAGTTTCAGTAAAGTAATTAAGGAAA
  T  I  K  K  V  K  D  I  F  T  D  S  F  S  K  V  I  K  E  N
          |1861                       |1871

 |5631     |5641     |5651     |5661     |5671     |5681
ACAACGAGAATAAATCAAAAATTTGCCAAACGAAAATTATGGCAGGTTGTTACGAGGCAT
  N  E  N  K  S  K  I  C  Q  T  K  I  M  A  G  C  Y  E  A  L
          |1881                       |1891

 |5691     |5701     |5711     |5721     |5731     |5741
TGGATGATTCAGAGGATATTCTTCATAACTCTCTAGATAATGATGAATGTAGCACGCATT
  D  D  S  E  D  I  L  H  N  S  L  D  N  D  E  C  S  T  H  S
          |1901                       |1911

 |5751     |5761     |5771     |5781     |5791     |5801
CACATAAGGTTTTTGCTGACATTCAGAGTGAAGAAATTTTACAACATAACCAAAATATGT
  H  K  V  F  A  D  I  Q  S  E  E  I  L  Q  H  N  Q  N  M  S
          |1921                       |1931

 |5811     |5821     |5831     |5841     |5851     |5861
CTGGATTGGAGAAAGTTTCTAAAATATCACCTTGTGATGTTAGTTTGGAAACTTCAGATA
  G  L  E  K  V  S  K  I  S  P  C  D  V  S  L  E  T  S  D  I
          |1941                       |1951

 |5871     |5881     |5891     |5901     |5911     |5921
TATGTAAATGTAGTATAGGGAAGCTTCATAAGTCAGTCTCATCTGCAAATACTTGTGGGA
  C  K  C  S  I  G  K  L  H  K  S  V  S  S  A  N  T  C  G  I
          |1961                       |1971

 |5931     |5941     |5951     |5961     |5971     |5981
TTTTTAGCACAGCAAGTGGAAAATCTGTCCAGGTATCAGATGCTTCATTACAAAACGCAA
  F  S  T  A  S  G  K  S  V  Q  V  S  D  A  S  L  Q  N  A  R
          |1981                       |1991

 |5991     |6001     |6011     |6021     |6031     |6041
```

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GACAAGTGTTTTCTGAAATAGAAGATAGTACCAAGCAAGTCTTTTCCAAAGTATTGTTTA
  Q  V  F  S  E  I  E  D  S  T  K  Q  V  F  S  K  V  L  F  K
           |2001                        |2011

 |6051     |6061     |6071     |6081     |6091     |6101
AAAGTAACGAACATTCAGACCAGCTCACAAGAGAAGAAAATACTGCTATACGTACTCCAG
  S  N  E  H  S  D  Q  L  T  R  E  E  N  T  A  I  R  T  P  E
           |2021                        |2031

 |6111     |6121     |6131     |6141     |6151     |6161
AACATTTAATATCCCAAAAAGGCTTTTCATATAATGTGGTAAATTCATCTGCTTTCTCTG
  H  L  I  S  Q  K  G  F  S  Y  N  V  V  N  S  S  A  F  S  G
           |2041                        |2051

 |6171     |6181     |6191     |6201     |6211     |6221
GATTTAGTACAGCAAGTGGAAAGCAAGTTTCCATTTTAGAAAGTTCCTTACACAAAGTTA
  F  S  T  A  S  G  K  Q  V  S  I  L  E  S  S  L  H  K  V  K
           |2061                        |2071

 |6231     |6241     |6251     |6261     |6271     |6281
AGGGAGTGTTAGAGGAATTTGATTTAATCAGAACTGAGCATAGTCTTCACTATTCACCTA
  G  V  L  E  E  F  D  L  I  R  T  E  H  S  L  H  Y  S  P  T
           |2081                        |2091

 |6291     |6301     |6311     |6321     |6331     |6341
CGTCTAGACAAAATGTATCAAAAATACTTCCTCGTGTTGATAAGAGAAACCCAGAGCACT
  S  R  Q  N  V  S  K  I  L  P  R  V  D  K  R  N  P  E  H  C
           |2101                        |2111

 |6351     |6361     |6371     |6381     |6391     |6401
GTGTAAACTCAGAAATGGAAAAAACCTGCAGTAAAGAATTTAAATTATCAAATAACTTAA
  V  N  S  E  M  E  K  T  C  S  K  E  F  K  L  S  N  N  L  N
           |2121                        |2131

 |6411     |6421     |6431     |6441     |6451     |6461
ATGTTGAAGGTGGTTCTTCAGAAAATAATCACTCTATTAAAGTTTCTCCATATCTCTCTC
  V  E  G  G  S  S  E  N  N  H  S  I  K  V  S  P  Y  L  S  Q
           |2141                        |2151

 |6471     |6481     |6491     |6501     |6511     |6521
AATTTCAACAAGACAAACAACAGTTGGTATTAGGAACCAAAGTGTCACTTGTTGAGAACA
  F  Q  Q  D  K  Q  Q  L  V  L  G  T  K  V  S  L  V  E  N  I
           |2161                        |2171

 |6531     |6541     |6551     |6561     |6571     |6581
TTCATGTTTTGGGAAAAGAACAGGCTTCACCTAAAAACGTAAAAATGGAAATTGGTAAAA
```

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  H  V  L  G  K  E  Q  A  S  P  K  N  V  K  M  E  I  G  K  T
           |2181                       |2191

 |6591     |6601     |6611     |6621     |6631     |6641
CTGAAACTTTTTCTGATGTTCCTGTGAAAACAAATATAGAAGTTTGTTCTACTTACTCCA
  E  T  F  S  D  V  P  V  K  T  N  I  E  V  C  S  T  Y  S  K
           |2201                       |2211

 |6651     |6661     |6671     |6681     |6691     |6701
AAGATTCAGAAAACTACTTTGAAACAGAAGCAGTAGAAATTGCTAAAGCTTTTATGGAAG
  D  S  E  N  Y  F  E  T  E  A  V  E  I  A  K  A  F  M  E  D
           |2221                       |2231

 |6711     |6721     |6731     |6741     |6751     |6761
ATGATGAACTGACAGATTCTAAACTGCCAAGTCATGCCACACATTCTCTTTTTACATGTC
  D  E  L  T  D  S  K  L  P  S  H  A  T  H  S  L  F  T  C  P
           |2241                       |2251

 |6771     |6781     |6791     |6801     |6811     |6821
CCGAAAATGAGGAAATGGTTTTGTCAAATTCAAGAATTGGAAAAAGAAGAGGAGAGCCCC
  E  N  E  E  M  V  L  S  N  S  R  I  G  K  R  R  G  E  P  L
           |2261                       |2271

 |6831     |6841.    .    .    .    .    .    .    .
TTATCTTAGTGGgtaagtgttcatttttacctttcgtgttgccaatcactatttttaaag
  I  L  V  G
           |2281

 .    .    .    .    .    .    .    .    .    .    .    .
tgtttattcagtagacttggtatgctaacaattaagagtgttataaactatgtctttca

 .    .    .    .    .    .    .    .    .    .    .    .
gccatttttgtgtagtcagtttgggggagtatggtttgatatacagatacacagattcag

 .    .    .    .    .    .    .    .    .    .    .    .
tattcgtatacagatttgatatcttggtatacagattcgatatctctgaatctgtatacc

 .    .    .    .    .    .    .    .    .    .    .    .
aagaaatcatgttttaagggtctcaatatattttcaaaaagattattagtataataattg

 .    .    .
agaaattactgt
```

Exon 12 | Start: 34079 | End: 34174 | Length: 95

```
.    .    .    .    .    .    .    .    .    .    .    .
tttttcaaaaagtagcttatctgtggtatctggtagcatctgtttatcctatttaggatt

.    .    .    .    .    .    .    .    .    .    .    .
tatcctgtttagaccctgttaaatagtggtgttttaaagtggtcaaaacagaacaaaaat

.    .    .    .    .    .    .    .    .    .    .    .
gtaattgacattgaagactgactttactctttcaaacattaggtcactatttgttgtaag

.    .    .    .    .    .    .    .    .    .    .    .
tatttttgtttaacatttaaagagtcaatactttagctttaaaaaaatggtctatagact

.    .    .    .    .    .    .    .    .    .    .    .
tttgagaaataaaactgatattatttgccttaaaaacatatatgaaatatttctttttag

         |6851     |6861     |6871     |6881     |6891     |6901
GAGAACCCTCAATCAAAAGAAACTTATTAAATGAATTTGACAGGATAATAGAAAATCAAG
  E  P  S  I  K  R  N  L  L  N  E  F  D  R  I  I  E  N  Q  E
                            |2291                          |2301

         |6911     |6921     |6931      .    .    .    .
AAAAATCCTTAAAGGCTTCAAAAAGCACTCCAGATGgtaaaattagcttttttatttatat
  K  S  L  K  A  S  K  S  T  P  D  G
                            |2311

.    .    .    .    .    .    .    .    .    .    .    .
ctgttctccctctataggtatggtatataatattctgacctcaggtgatccacctgcctc

.    .    .    .    .    .    .    .    .    .    .    .
tcaaagtgctgggattacagacatgagccactgtgcctaatcaaggacctctttatactc

.    .    .    .    .    .    .    .    .    .    .    .
ttaaaaattactgaggacctaaaagagcatttgtttatgtggaatatatctattgatatt

.    .    .    .    .    .    .    .    .    .    .    .
taccatattagaaatgtaaattgattaatgttaaaattagtaatattatgcgttggtcat

.    .    .    .    .    .    .    .
ttggaagatatgagttcactgagttatgcggatctt
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Exon 13 | Start: 36348 | End: 36417 | Length: 69

```
.    .    .    .    .    .    .    .    .    .    .    .
aattttaaatttggtatttgcatcagaaattagctaacacctttgagttatgatggttaa

.    .    .    .    .    .    .    .    .    .    .    .
catcaactgactaaatttatgctgatttctgttgtatgcttgtactgtgagttatttggt

.    .    .    .    .    .    .    .    .    .    .    .
gcatagtcattatcaatttgtgaatcaatttattttcatagttaacatttattgagcatc

.    .    .    .    .    .    .    .    .    .    .    .
tgttacattcactgaaaattgtaaagcctataattgtctcaaatttttgtgtatttaca

.    .    .    .    .    .    .    .    .    .    .    .
gtaacatggatattctcttagattttaactaatatgtaatataaaataattgtttcctag

   |6941     |6951     |6961     |6971     |6981     |6991
GCACAATAAAAGATCGAAGATTGTTTATGCATCATGTTTCTTTAGAGCCGATTACCTGTG
  T  I  K  D  R  R  L  F  M  H  H  V  S  L  E  P  I  T  C  V
                       |2321                       |2331

   |7001     .    .    .    .    .    .    .    .    .    .
TACCCTTTCGgtaagacatgtttaaatttttctaaattctaatacagtatgagaaaagtc
  P  F  R


    .    .    .    .    .    .    .    .    .    .    .    .
tcgtttttataaatgaacatttctaaaaataatgacactaacgttaagaagttaacactt

    .    .    .    .    .    .    .    .    .    .    .    .
cccgttttataaaatttataaaatactttggtagtattttatagtgctgttcatatcatt

    .    .    .    .    .    .    .    .    .    .    .    .
attttatttttaattttatgacagctttgtaaagtagacagattttattctaattttat

    .    .    .    .    .    .    .    .    .    .    .    .
ggatgaagtactaaggttgagaggaattaaggaaattgctccgaatcagttaacaaaaag

    .    .
attgcagata
```

Exon 14 | Start: 44382 | End: 44809 | Length: 427

```
.    .    .    .    .    .    .    .    .    .    .    .
gggtagacatttccctggtgaaggaggtaaggagtactatgatggaattagaggggacac

.    .    .    .    .    .    .    .    .    .    .    .
actgagagggtccacacttgacagactctcttctattatgtgttatgtgaggtagattgt

.    .    .    .    .    .    .    .    .    .    .    .
aaagtcaaaggctagccttgaaaaatgtgatattgttttggaatggcaaccatggtgaat

.    .    .    .    .    .    .    .    .    .    .    .
acaaaacagttaccagaatagtatcaccatgtagcaaatgagggtctgcaacaaaggcat

.    .    .    .    .    .    .    .    .    .    .    .
attcctaaatatttatatgtgtactagtcaataaacttatatattttctccccattgcag

   |7011     |7021     |7031     |7041     |7051     |7061
CACAACTAAGGAACGTCAAGAGATACAGAATCCAAATTTTACCGCACCTGGTCAAGAATT
 T  T  K  E  R  Q  E  I  Q  N  P  N  F  T  A  P  G  Q  E  F
            |2341                       |2351

   |7071     |7081     |7091     |7101     |7111     |7121
TCTGTCTAAATCTCATTTGTATGAACATCTGACTTTGGAAAAATCTTCAAGCAATTTAGC
 L  S  K  S  H  L  Y  E  H  L  T  L  E  K  S  S  S  N  L  A
            |2361                       |2371

   |7131     |7141     |7151     |7161     |7171     |7181
AGTTTCAGGACATCCATTTTATCAAGTTTCTGCTACAAGAAATGAAAAAATGAGACACTT
 V  S  G  H  P  F  Y  Q  V  S  A  T  R  N  E  K  M  R  H  L
            |2381                       |2391

   |7191     |7201     |7211     |7221     |7231     |7241
GATTACTACAGGCAGACCAACCAAAGTCTTTGTTCCACCTTTTAAAACTAAATCACATTT
 I  T  T  G  R  P  T  K  V  F  V  P  P  F  K  T  K  S  H  F
            |2401                       |2411

   |7251     |7261     |7271     |7281     |7291     |7301
TCACAGAGTTGAACAGTGTGTTAGGAATATTAACTTGGAGGAAAACAGACAAAAGCAAAA
 H  R  V  E  Q  C  V  R  N  I  N  L  E  E  N  R  Q  K  Q  N
            |2421                       |2431

   |7311     |7321     |7331     |7341     |7351     |7361
CATTGATGGACATGGCTCTGATGATAGTAAAAATAAGATTAATGACAATGAGATTCATCA
 I  D  G  H  G  S  D  D  S  K  N  K  I  N  D  N  E  I  H  Q
```

```
            |2441                          |2451

   |7371     |7381     |7391     |7401     |7411     |7421
GTTTAACAAAAACAACTCCAATCAAGCAGCAGCTGTAACTTTCACAAAGTGTGAAGAAGA
 F  N  K  N  N  S  N  Q  A  A  A  V  T  F  T  K  C  E  E  E
            |2461                          |2471

   |7431    .    .    .    .    .    .    .    .    .    .
ACCTTTAGgtattgtatgacaatttgtgtgatgaatttttgcctttcagttagatatttc
 P  L  D


  .    .    .    .    .    .    .    .    .    .    .    .
cgttgttaaataatgtcctgatggttttccccctttggtggtggtaattttaaagccctt

  .    .    .    .    .    .    .    .    .    .    .    .
tttaatgttttagattttctaaatccaaagattaggtttaaattattctaatgtttcttt

  .    .    .    .    .    .    .    .    .    .    .    .
caaagataacttcttgtggacttgttaaaaaaaaattagacacacaatctaggactgctgt

  .    .    .    .    .    .    .    .    .    .    .    .
tactggaatatattttctatcatgctactaattttctttttaaaatgtgataaaaatagg

  .    .
gccgggcg


Exon 15 | Start: 45949 | End: 46130 | Length: 181


.    .    .    .    .    .    .    .    .    .    .    .
ctcctcccgagttcaagtgattctcctgcctcagcctgctgaatagctgggattacaggc

.    .    .    .    .    .    .    .    .    .    .    .
atgtgccaccacacctggctacttttgtgtttttttttacttttatatatttttttttgt

.    .    .    .    .    .    .    .    .    .    .    .
ttagtagagacagggtttctccattttggtcaggctggtcttgaactcccgacctcagat

.    .    .    .    .    .    .    .    .    .    .    .
gatctgcccgcctcagcctcccaaagtgctgggattacaggcgtgagccactgtgcctgg

.    .    .    .    .    .    .    .    .    .    .    .
```

```
ccaggggttgtgctttttaaatttcaattttatttttgctaagtatttattctttgatag

     |7441     |7451     |7461     |7471     |7481     |7491
ATTTAATTACAAGTCTTCAGAATGCCAGAGATATACAGGATATGCGAATTAAGAAGAAAC
  L  I  T  S  L  Q  N  A  R  D  I  Q  D  M  R  I  K  K  K  Q
     |2481                       |2491

     |7501     |7511     |7521     |7531     |7541     |7551
AAAGGCAACGCGTCTTTCCACAGCCAGGCAGTCTGTATCTTGCAAAAACATCCACTCTGC
  R  Q  R  V  F  P  Q  P  G  S  L  Y  L  A  K  T  S  T  L  P
     |2501                       |2511

     |7561     |7571     |7581     |7591     |7601     |7611
CTCGAATCTCTCTGAAAGCAGCAGTAGGAGGCCAAGTTCCCTCTGCGTGTTCTCATAAAC
  R  I  S  L  K  A  A  V  G  G  Q  V  P  S  A  C  S  H  K  Q
     |2521                       |2531

      .    .    .    .    .    .    .    .    .    .    .
AGgtatgtgtttgtctacaatactgatggcttttatgacagagtgtaattttatttcatt



 .    .    .    .    .    .    .    .    .    .    .    .
aactagtatctacaaatggctttgtttaaagaatgaacacattagtgcaggaatggatga

 .    .    .    .    .    .    .    .    .    .    .    .
atgaaatcatcatattttctaattagcctgcagtggcagcctctggccccttgctaggcc

 .    .    .    .    .    .    .    .    .    .    .    .
tgcctcatcctgctaaagtgatctgtgcttccaaattactacttcttttccccccttcaaa

 .    .    .    .    .    .    .    .    .    .    .    .
tctttcttattttgtcattgtaaatgctctcagctaggtgttaaagtagtcttactgata

 .
tt



Exon 16 | Start: 47263 | End: 47450 | Length: 187



.    .    .    .    .    .    .    .    .    .    .    .
agagattttgtaaaacatcacatttttttatcctcacagtaccttcctatggcagattta
```

```
.    .    .    .    .    .    .    .    .    .    .    .
gcaggaggcgtataaacggggtggaaaaggtacagcagactgtggaatgtatggatcatt

.    .    .    .    .    .    .    .    .    .    .    .
tatattacattaaaatttttagtttctagtaaataacttaaatgtttttgtagtgaagat

.    .    .    .    .    .    .    .    .    .    .    .
tctagtagttaatgaaaatttttggtaaattcagttttggtttgttataattgtttttat

.    .    .    .    .    .    .    .    .    .    .    .
tgtgtgatacatgtttactttaaattgtttttctttttttgtgtgtgtttattttgtgtag

   |7621     |7631     |7641     |7651     |7661     |7671
CTGTATACGTATGGCGTTTCTAAACATTGCATAAAAATTAACAGCAAAAATGCAGAGTCT
L  Y  T  Y  G  V  S  K  H  C  I  K  I  N  S  K  N  A  E  S
   |2541                       |2551

   |7681     |7691     |7701     |7711     |7721     |7731
TTTCAGTTTCACACTGAAGATTATTTTGGTAAGGAAAGTTTATGGACTGGAAAAGGAATA
F  Q  F  H  T  E  D  Y  F  G  K  E  S  L  W  T  G  K  G  I
   |2561                       |2571

   |7741     |7751     |7761     |7771     |7781     |7791
CAGTTGGCTGATGGTGGATGGCTCATACCCTCCAATGATGGAAAGGCTGGAAAAGAAGAA
Q  L  A  D  G  G  W  L  I  P  S  N  D  G  K  A  G  K  E  E
   |2581                       |2591

   |7801    .    .    .    .    .    .    .    .    .
TTTTATAGgtactctatgcaaaaagattgtgtgttaacttttatgtattccctcatccct
F  Y  R
   |2601

  .    .    .    .    .    .    .    .    .    .    .    .
ctttcttctcttaactgtctctcgaactaaaaagttggctagaaatcaaatttttatgca

  .    .    .    .    .    .    .    .    .    .    .    .
tttaattgttttaagtgcattatggttaagcattctgtagaagtcttttgaaaagtgctg

  .    .    .    .    .    .    .    .    .    .    .    .
tttgtcctggggtttaatgaactggatttttcttgatttgggacatttttcttaggcattt

  .    .    .    .    .    .    .    .    .    .    .    .
ataaatatagcccaatttataaagttaaatttggccgggtacagtggctcatgcctgtaa

  .    .
tcccagca
```

Exon 17 | Start: 52044 | End: 52214 | Length: 170

```
.    .    .    .    .    .    .    .    .    .    .    .
tctcactatgttgcctaggctggtctcaaacttctggcctcaagcaatcctcctgcctca

.    .    .    .    .    .    .    .    .    .    .    .
gcttcccaaaatgctgggagtataggcatgagccaccatgctcagcaatgaagtttttat

.    .    .    .    .    .    .    .    .    .    .    .
cagtatgatactttgatacatgtcaaataattttctgaaattatattgtagatcatatga

.    .    .    .    .    .    .    .    .    .    .    .
actcataaaaacttaatgatcttgaacaatgtagtttttgtacagagaatagttgtagtt

.    .    .    .    .    .    .    .    .    .    .    .
gttgaattcagtatcatcctatgtggtttttatgataatattctacttttatttgttcag

     |7811     |7821     |7831     |7841     |7851     |7861
GGCTCTGTGTGACACTCCAGGTGTGGATCCAAAGCTTATTTCTAGAATTTGGGTTTATAA
 A  L  C  D  T  P  G  V  D  P  K  L  I  S  R  I  W  V  Y  N
                       |2611                       |2621

     |7871     |7881     |7891     |7901     |7911     |7921
TCACTATAGATGGATCATATGGAAACTGGCAGCTATGGAATGTGCCTTTCCTAAGGAATT
 H  Y  R  W  I  I  W  K  L  A  A  M  E  C  A  F  P  K  E  F
                       |2631                       |2641

     |7931     |7941     |7951     |7961     |7971     .
TGCTAATAGATGCCTAAGCCCAGAAAGGGTGCTTCTTCAACTAAAATACAGgcaagttta
 A  N  R  C  L  S  P  E  R  V  L  L  Q  L  K  Y  R
                       |2651

.    .    .    .    .    .    .    .    .    .    .    .
aagcattacattacgtaatcatatacggcagtatggttaaggtttctgtgtagtctgtga

.    .    .    .    .    .    .    .    .    .    .    .
cttccatgtcaaaatgttgcacaagccagttgtcagtgacagttgccatcccacactgct

.    .    .    .    .    .    .    .    .    .    .    .
gttctcctgtcatccctagcccccatttaagagagatcacacattcatgcattgcttgct
```

```
.    .    .    .    .    .    .    .    .    .    .    .
tccctctttccccacccccctccttaacctcttgatgtatgagaagaatatgagttactaa

.    .    .    .    .    .    .    .    .    .    .
tttgatccactatttggggattgctaataaagcatttttgcattttatttt
```

Exon 18 | Start: 52700 | End: 53054 | Length: 354

```
.    .    .    .    .    .    .    .    .    .    .    .
tgcttccctctttccccacccccctccttaacctcttgatgtatgagaagaatatgagtta

.    .    .    .    .    .    .    .    .    .    .    .
ctaatttgatccactatttggggattgctaataaagcatttttgcatttttatttttgct

.    .    .    .    .    .    .    .    .    .    .    .
ttttaaaaataattgatattttaacaatatgaaacaatatattcctagctacaaaatttt

.    .    .    .    .    .    .    .    .    .    .    .
taattctcagtatttcttagataaattcagttttattctcagttattcagtgacttgtt

.    .    .    .    .    .    .    .    .    .    .    .
taaacagtggaattctagagtcacacttcctaaaatatgcatttttgttttcacttttag

    |7981     |7991     |8001     |8011     |8021     |8031
ATATGATACGGAAATTGATAGAAGCAGAAGATCGGCTATAAAAAAGATAATGGAAAGGGA
 Y  D  T  E  I  D  R  S  R  R  S  A  I  K  K  I  M  E  R  D
    |2661                       |2671

    |8041     |8051     |8061     |8071     |8081     |8091
TGACACAGCTGCAAAAACACTTGTTCTCTGTGTTTCTGACATAATTTCATTGAGCGCAAA
 D  T  A  A  K  T  L  V  L  C  V  S  D  I  I  S  L  S  A  N
    |2681                       |2691

    |8101     |8111     |8121     |8131     |8141     |8151
TATATCTGAAACTTCTAGCAATAAAACTAGTAGTGCAGATACCCAAAAAGTGGCCATTAT
 I  S  E  T  S  S  N  K  T  S  S  A  D  T  Q  K  V  A  I  I
    |2701                       |2711

    |8161     |8171     |8181     |8191     |8201     |8211
TGAACTTACAGATGGGTGGTATGCTGTTAAGGCCCAGTTAGATCCTCCCCTCTTAGCTGT
 E  L  T  D  G  W  Y  A  V  K  A  Q  L  D  P  P  L  L  A  V
    |2721                       |2731
```

```
    |8221     |8231     |8241     |8251     |8261     |8271
CTTAAAGAATGGCAGACTGACAGTTGGTCAGAAGATTATTCTTCATGGAGCAGAACTGGT
 L  K  N  G  R  L  T  V  G  Q  K  I  I  L  H  G  A  E  L  V
    |2741                       |2751

    |8281     |8291     |8301     |8311     |8321     |8331.
GGGCTCTCCTGATGCCTGTACACCTCTTGAAGCCCCAGAATCTCTTATGTTAAAGgtaaa
 G  S  P  D  A  C  T  P  L  E  A  P  E  S  L  M  L  K
    |2761                       |2771

    .    .    .    .    .    .    .    .    .    .    .    .
ttaatttgcactcttggtaaaaatcagtcattgattcagttaaattctagaagttttaca

    .    .    .    .    .    .    .    .    .    .    .    .
tttaaattttaaatgcttactaaggatgctcaatttcttagatgtactgataattttagt

    .    .    .    .    .    .    .    .    .    .    .    .
ataaaaagcatattcttcagacagttaaagtttttgtgcagtttttgggaggtccagaga

    .    .    .    .    .    .    .    .    .    .    .    .
tctttcttgagcttaaataatgcatttccaattaaaaagcaaaataaatttgcaccattt

    .    .    .    .    .    .    .    .    .    .    .
gattttggtatctgtagcttgctgccctcttgttctcatagctttgctttgatca


Exon 19 | Start: 59923 | End: 60078 | Length: 155


.    .    .    .    .    .    .    .    .    .    .    .
tgtattttaaactattatgtttaaatcgaagttccttttatctgttttctaatagaaaca

.    .    .    .    .    .    .    .    .    .    .    .
tttaaatagcattaagaacttgtagcagtataaacaatatgtttgagaagtactatattg

.    .    .    .    .    .    .    .    .    .    .    .
tgaaaatattttcacttttatacagtttttacttatttactgtcttactaatcttccta

.    .    .    .    .    .    .    .    .    .    .    .
agacttttaaagtgaatatttttaaggcagttctagaagaatgaaaactcttatgatat

.    .    .    .    .    .    .    .    .    .    .    .
ctgtaatagaattgaatacatatttaactactaaatcaatatatttattaatttgtccag
```

```
         |8341     |8351     |8361     |8371     |8381     |8391
ATTTCTGCTAACAGTACTCGGCCTGCTCGCTGGTATACCAAACTTGGATTCTTTCCTGAC
I  S  A  N  S  T  R  P  A  R  W  Y  T  K  L  G  F  F  P  D
         |2781                       |2791

         |8401     |8411     |8421     |8431     |8441     |8451
CCTAGACCTTTTCCTCTGCCCTTATCATCGCTTTTCAGTGATGGAGGAAATGTTGGTTGT
P  R  P  F  P  L  P  L  S  S  L  F  S  D  G  G  N  V  G  C
         |2801                       |2811

         |8461     |8471     |8481      .    .    .    .
GTTGATGTAATTATTCAAAGAGCATACCCTATACAGgtatgatgtattcttgaaacttac
V  D  V  I  I  Q  R  A  Y  P  I  Q
         |2821

.    .    .    .    .    .    .    .    .    .    .    .
catatatttctttctttgatacaattaatttgtttgtttgtttgagatggagtttcggt

.    .    .    .    .    .    .    .    .    .    .    .
ctcttgcccaggctggagtgcaatggcgtgatcttggttcactgcagcctccacctcccg

.    .    .    .    .    .    .    .    .    .    .    .
ggttcaagtgattctcctgcctcagcctctcaagtagctgagccaccacacctggctaat

.    .    .    .    .    .    .    .    .    .    .    .
tttgtatttttggtagagaaggggtttcatcatgttggtcaggctgatctcgaactcctg

.    .    .    .    .    .    .    .
acctcaggtgatccactaatctcagcctcccaaagt
```

Exon 20 | Start: 60477 | End: 60621 | Length: 144

```
.    .    .    .    .    .    .    .    .    .    .    .
ggagtgcaatggcgtgatcttggttcactgcagcctccacctcccgggttcaagtgattc

.    .    .    .    .    .    .    .    .    .    .    .
tcctgcctcagcctctcaagtagctgagccaccacacctggctaattttgtatttttggt

.    .    .    .    .    .    .    .    .    .    .    .
agagaaggggtttcatcatgttggtcaggctgatctcgaactcctgacctcaggtgatcc
```

```
.    .    .    .    .    .    .    .    .    .    .    .
actaatctcagcctcccaaagttctgggattacagatgtgagccactgtgcctggcctga

.    .    .    .    .    .    .    .    .    .    .    .
tacaattaacttgaatgttatatatgtgacttttttggtgtgtgtaacacattattacag

   |8491     |8501     |8511     |8521     |8531     |8541
TGGATGGAGAAGACATCATCTGGATTATACATATTTCGCAATGAAAGAGAGGAAGAAAAG
W  M  E  K  T  S  S  G  L  Y  I  F  R  N  E  R  E  E  E  K
   |2831                        |2841

   |8551     |8561     |8571     |8581     |8591     |8601
GAAGCAGCAAAATATGTGGAGGCCCAACAAAAGAGACTAGAAGCCTTATTCACTAAAATT
E  A  A  K  Y  V  E  A  Q  Q  K  R  L  E  A  L  F  T  K  I
   |2851                        |2861

   |8611     |8621     |8631 .    .    .    .    .    .    .
CAGGAGGAATTTGAAGAACATGAAGgtaaaattagttatatggtacacattgttatttct
Q  E  E  F  E  E  H  E  E
   |2871

    .    .    .    .    .    .    .    .    .    .    .    .
aatatgagaacaaagtcttagagactttgaatttaacatttttaatgagtaaattgtttt

    .    .    .    .    .    .    .    .    .    .    .    .
tattttgagtagtaaattgactttatttttttagtatctagggtattctttttttggtgtta

    .    .    .    .    .    .    .    .    .    .    .    .
gacaaagaatagcaacaagggacagaaatatcaggtctaagccatttgtaatatttttcc

    .    .    .    .    .    .    .    .    .    .    .    .
tgaattcttacctatatgatgtggcttttgcatttttgtcatggtagttattagctttca

    .    .    .    .    .
tgtgttattatgcctggaactagga


Exon 21 | Start: 66191 | End: 66312 | Length: 121


.    .    .    .    .    .    .    .    .    .    .    .
aaattaaccgggcatgttggatgtgcctctaatcccagctactcgggaggctgaggcagg

.    .    .    .    .    .    .    .    .    .    .    .
```

```
agaaccacttgaacccaggagacagaggttgcaatgagccgagatcacaccactgcactc

.    .    .    .    .    .    .    .    .    .    .    .
ccagattgggtgacagagtgagaccctgtctcaaaaaaaaaaaaaagaaaaaacttttag

.    .    .    .    .    .    .    .    .    .    .    .
cagttatatagtttcttatctttaaatctcccttctttgggtgttttatgcttggttctt

.    .    .    .    .    .    .    .    .    .    .    .
tagttttagttgctttgaatttacagtttagtgaattaataatccttttgttttcttag

        |8641     |8651     |8661     |8671     |8681     |8691
AAAACACAACAAAACCATATTTACCATCACGTGCACTAACAAGACAGCAAGTTCGTGCTT
  N   T   T   K   P   Y   L   P   S   R   A   L   T   R   Q   Q   V   R   A   L
        |2881                         |2891

        |8701     |8711     |8721     |8731     |8741     |8751
TGCAAGATGGTGCAGAGCTTTATGAAGCAGTGAAGAATGCAGCAGACCCAGCTTACCTTG
  Q   D   G   A   E   L   Y   E   A   V   K   N   A   A   D   P   A   Y   L   E
        |2901                         |2911

     .    .    .    .    .    .    .    .    .    .    .
AGgtgagagagtaagaggacatataatgaggcttgatgattattcaaggtgagaagctgt



 .    .    .    .    .    .    .    .    .    .    .    .
tttagactctctggccatcacaggaaggagtatgttgaaatgctgcatttctcaaaaggg

 .    .    .    .    .    .    .    .    .    .    .    .
atgtgtacatttctgggatttcagtgatgtgccagacgagtgtggtggtatgttttcaa

 .    .    .    .    .    .    .    .    .    .    .    .
ctatataccgagtagaggatgggagggttctagaattttatatattaattaaatttggtt

 .    .    .    .    .    .    .    .    .    .    .    .
taaaatgcaggcaaaacttgttttatttttgtccctcctgtactctgaagcaaaaaaact

 .
tt
```

Exon 22 | Start: 68838 | End: 69036 | Length: 198
BE AWARE: This section overlaps with the following exon

```
.    .    .    .    .    .    .    .    .    .    .    .
catagatctatttctcaaaataatgagcattcagatattagccatctgtaatgtagttgg

.    .    .    .    .    .    .    .    .    .    .    .
tgatgattatgattattagagtacatttataattggaggatcatttttgccgtagggaaa

.    .    .    .    .    .    .    .    .    .    .    .
tagaattattaatagtttgaggcacctgagaatattatgtgagaaactgattacattaac

.    .    .    .    .    .    .    .    .    .    .    .
cacacccttaagatgagctctaattttgttgtatttgtcctgtttaaagccatctagtta

.    .    .    .    .    .    .    .    .    .    .    .
caatagatggaacttttttgttctgattgctttttattccaatatcttaaatggtcacag

      |8761     |8771     |8781     |8791     |8801     |8811
GGTTATTTCAGTGAAGAGCAGTTAAGAGCCTTGAATAATCACAGGCAAATGTTGAATGAT
G  Y  F  S  E  E  Q  L  R  A  L  N  N  H  R  Q  M  L  N  D
      |2921                       |2931

      |8821     |8831     |8841     |8851     |8861     |8871
AAGAAACAAGCTCAGATCCAGTTGGAAATTAGGAAGGCCATGGAATCTGCTGAACAAAAG
K  K  Q  A  Q  I  Q  L  E  I  R  K  A  M  E  S  A  E  Q  K
      |2941                       |2951

      |8881     |8891     |8901     |8911     |8921     |8931
GAACAAGGTTTATCAAGGGATGTCACAACCGTGTGGAAGTTGCGTATTGTAAGCTATTCA
E  Q  G  L  S  R  D  V  T  T  V  W  K  L  R  I  V  S  Y  S
      |2961                       |2971

      |8941     |8951  .    .    .    .    .    .    .    .
AAAAAAGAAAAAGATTCAGgtaagtatgtaaatgctttgtttttatcagtttattaact
K  K  E  K  D  S  V
      |2981

   .    .    .    .    .    .    .    .    .    .    .    .
taaaaaatgaccttactaacaaaatgattataaatccagataaagtataaagttagttta

   .    .    .    .    .    .    .    .    .    .    .    .
tatcagagaagcaaaatccactactaatgcccacaaagagataatataaaagaggatctg

   .    .    .    .    .    .    .    .    .    .    .    .
tatttatttgaaacaaacatttaaatgataatcacttcttccattgcatctttctcatc
```

```
   .    .    .    .    .    .    .    .    .    .    .    .
tttctccaaacagttatactgagtatttggcgtccatcatcagatttatattctctgtta

   .    .    .    .
acagaaggaaagagataca
```

Exon 23 | Start: 69271 | End: 69434 | Length: 163
BE AWARE: This section overlaps with the following exon

```
.    .    .    .    .    .    .    .    .    .    .    .
caagggatgtcacaaccgtgtggaagttgcgtattgtaagctattcaaaaaaagaaaaag

.    .    .    .    .    .    .    .    .    .    .    .
attcaggtaagtatgtaaatgctttgtttttatcagttttattaacttaaaaaatgacct

.    .    .    .    .    .    .    .    .    .    .    .
tactaacaaaatgattataaatccagataaagtataaagttagtttatatcagagaagca

.    .    .    .    .    .    .    .    .    .    .    .
aaatccactactaatgcccacaaagagataatataaaagaggatctgtatttattttgaa

.    .    .    .    .    .    .    .    .    .    .    .
acaaacatttaaatgataatcacttcttccattgcatctttctcatctttctccaaacag

       |8961     |8971     |8981     |8991     |9001     |9011
TTATACTGAGTATTTGGCGTCCATCATCAGATTTATATTCTCTGTTAACAGAAGGAAAGA
  I  L  S  I  W  R  P  S  S  D  L  Y  S  L  L  T  E  G  K  R
                |2991                       |3001

       |9021     |9031     |9041     |9051     |9061     |9071
GATACAGAATTTATCATCTTGCAACTTCAAAATCTAAAAGTAAATCTGAAAGAGCTAACA
  Y  R  I  Y  H  L  A  T  S  K  S  K  S  K  S  E  R  A  N  I
                |3011                       |3021

       |9081     |9091     |9101     |9111      .    .    .
TACAGTTAGCAGCGACAAAAAAAACTCAGTATCAACAACTACCGgtacaaacctttcatt
  Q  L  A  A  T  K  K  T  Q  Y  Q  Q  L  P
                |3031

   .    .    .    .    .    .    .    .    .    .    .    .
gtaatttttcagttttgataagtgcttgttagtttatggaatctccatatgttgaatttt
```

```
   .    .    .    .    .    .    .    .    .    .    .    .
tgttttgttttctgtaggtttcagatgaaatttatttcagatttaccagccacgggagc

   .    .    .    .    .    .    .    .    .    .    .    .
cccttcacttcagcaaatttttagatccagactttcagccatcttgttctgaggtggacc

   .    .    .    .    .    .    .    .    .    .    .    .
taataggatttgtcgtttctgttgtgaaaaaaacaggtaatgcacaatatagttaatttt

   .    .    .    .    .    .    .    .    .
ttttattgattcttttaaaaaacattgtcttttaaaatctctta
```

Exon 24 | Start: 69528 | End: 69666 | Length: 138

```
.    .    .    .    .    .    .    .    .    .    .    .
aatcacttcttccattgcatctttctcatctttctccaaacagttatactgagtatttgg

.    .    .    .    .    .    .    .    .    .    .    .
cgtccatcatcagatttatattctctgttaacagaaggaaagagatacagaatttatcat

.    .    .    .    .    .    .    .    .    .    .    .
cttgcaacttcaaaatctaaaagtaaatctgaaagagctaacatacagttagcagcgaca

.    .    .    .    .    .    .    .    .    .    .    .
aaaaaaactcagtatcaacaactaccggtacaaacctttcattgtaatttttcagttttg

.    .    .    .    .    .    .    .    .    .    .    .
ataagtgcttgttagtttatggaatctccatatgttgaatttttgttttgttttctgtag

   |9121     |9131     |9141     |9151     |9161     |9171
GTTTCAGATGAAATTTTATTTCAGATTTACCAGCCACGGGAGCCCCTTCACTTCAGCAAA
V  S  D  E  I  L  F  Q  I  Y  Q  P  R  E  P  L  H  F  S  K
   |3041                        |3051

   |9181     |9191     |9201     |9211     |9221     |9231
TTTTTAGATCCAGACTTTCAGCCATCTTGTTCTGAGGTGGACCTAATAGGATTTGTCGTT
F  L  D  P  D  F  Q  P  S  C  S  E  V  D  L  I  G  F  V  V
   |3061                        |3071

   |9241     |9251     .    .    .    .    .    .    .    .
TCTGTTGTGAAAAAAACAGgtaatgcacaatatagttaatttttttattgattctttta
S  V  V  K  K  T  G
```

```
   |3081

   .    .    .    .    .    .    .    .    .    .    .    .
aaaaacattgtcttttaaaatctcttatgattagttggagctaccagttggcaaatttgc

   .    .    .    .    .    .    .    .    .    .    .    .
tagctaactagtgatctgaaagtaagcctctttgaacctctgatttttcatgaaaagcaa

   .    .    .    .    .    .    .    .    .    .    .    .
ttctctcaattctatattatttcaagggtaacaagttacatcctagtctgtgtacttaat

   .    .    .    .    .    .    .    .    .    .    .    .
tttatagaaattgtccttaattttattttctgcaatttatgttttcttactatttctggt

   .    .    .    .
gtatgtgtttatcccattg
```

Exon 25 | Start: 84210 | End: 84454 | Length: 244

```
.    .    .    .    .    .    .    .    .    .    .    .
gccaaatttatctccagaaatcttgcacaaatctgtactcctgttagcaatgtgtgcgta

.    .    .    .    .    .    .    .    .    .    .    .
tacctgcttccacatgacctcagtaaaagaatgtgttgtcatattggtattgaaatttta

.    .    .    .    .    .    .    .    .    .    .    .
gcactgtaagcaacaggtcattttggaaaacctgagctttcgccaaattcagctattttg

.    .    .    .    .    .    .    .    .    .    .    .
atttgcttttattattagcatataccaaaataaataggcatattagagtttcctttcttg

.    .    .    .    .    .    .    .    .    .    .    .
catcttaaaattcatctaacacatctataataacattcttttctttttttttccattctag

    |9261      |9271      |9281      |9291      |9301      |9311
GACTTGCCCCTTTCGTCTATTTGTCAGACGAATGTTACAATTTACTGGCAATAAAGTTTT
  L   A   P   F   V   Y   L   S   D   E   C   Y   N   L   L   A   I   K   F   W
              |3091                          |3101

    |9321      |9331      |9341      |9351      |9361      |9371
GGATAGACCTTAATGAGGACATTATTAAGCCTCATATGTTAATTGCTGCAAGCAACCTCC
  I   D   L   N   E   D   I   I   K   P   H   M   L   I   A   A   S   N   L   Q
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             |3111                          |3121

    |9381     |9391     |9401     |9411     |9421     |9431
AGTGGCGACCAGAATCCAAATCAGGCCTTCTTACTTTATTTGCTGGAGATTTTTCTGTGT
  W  R  P  E  S  K  S  G  L  L  T  L  F  A  G  D  F  S  V  F
             |3131                          |3141

    |9441     |9451     |9461     |9471     |9481     |9491
TTTCTGCTAGTCCAAAAGAGGGCCACTTTCAAGAGACATTCAACAAAATGAAAAATACTG
  S  A  S  P  K  E  G  H  F  Q  E  T  F  N  K  M  K  N  T  V
             |3151                          |3161

    |9501.    .    .    .    .    .    .    .    .    .
TTGAGgtaaggttacttttcagcatcaccacacattttggtatttttctattttgacagt
  E


    .    .    .    .    .    .    .    .    .    .    .
ccagtatcaaggaaatagcttttatacaaattggatagttgaggtagtatgtgaggtaaa

    .    .    .    .    .    .    .    .    .    .    .
gtttaatcatatattaattgcccatgaacctcaggagatgggggaatggggaaatgacag

    .    .    .    .    .    .    .    .    .    .    .
caactagaaagagaagaatgacttgaagggaaatgagttaggagaaattgtgagaaggat

    .    .    .    .    .    .    .    .    .    .    .
gttcagaaatgcagactttgtaagcaaactggaaattggttacaagaataatatgagtta

    .
tctgt


Exon 26 | Start: 86419 | End: 86565 | Length: 146


.    .    .    .    .    .    .    .    .    .    .    .
agcttcaatccagatcatatgacagcttgctgattaaactagatgacagagaagatctct

.    .    .    .    .    .    .    .    .    .    .    .
ttccttcagatacacatacttttttctctgttcccctctccctatcagctagattccccta

.    .    .    .    .    .    .    .    .    .    .    .
aatcactgatactggttttgtaattttgcatcggcatgtttgacaattggtatcacattt
```

```
.    .    .    .    .    .    .    .    .    .    .    .
agggtttttcattctttttggtccaaactttcatttctgcttttaaaggaaatacttt

.    .    .    .    .    .    .    .    .    .    .    .
tggaaacataaatatgtgggtttgcaatttataaagcagcttttccacttattttcttag

         |9511     |9521     |9531     |9541     |9551     |9561
AATATTGACATACTTTGCAATGAAGCAGAAAACAAGCTTATGCATATACTGCATGCAAAT
N  I  D  I  L  C  N  E  A  E  N  K  L  M  H  I  L  H  A  N
         |3171                       |3181

         |9571     |9581     |9591     |9601     |9611     |9621
GATCCCAAGTGGTCCACCCCAACTAAAGACTGTACTTCAGGGCCGTACACTGCTCAAATC
D  P  K  W  S  T  P  T  K  D  C  T  S  G  P  Y  T  A  Q  I
         |3191                       |3201

         |9631     |9641       .    .    .    .    .    .
ATTCCTGGTACAGGAAACAAGCTTCTGgtaagttaatgtaaactcaaggaatattataag
I  P  G  T  G  N  K  L  L
         |3211

 .    .    .    .    .    .    .    .    .    .    .    .
aagtatatatggaggccatcgtatattctgttgtatacctagtaaacatggtaaaatgta

 .    .    .    .    .    .    .    .    .    .    .    .
attaaacttaattagaaaatgtggttgttatgtggctcctgtaagtatagttatttagaa

 .    .    .    .    .    .    .    .    .    .    .    .
attttatttattgaagcaagatatgaaactctgggtgcacactttccaaacaggtgcttt

 .    .    .    .    .    .    .    .    .    .    .    .
catttacatgtgattgaaaagtgtttttgtcatttatttcactgttccatacaattagg

 .    .    .    .    .    .
gttgtttctaagctgtttgtaagctgt


Exon 27 | Start: 87683 | End: 89193 | Length: 1510


.    .    .    .    .    .    .    .    .    .    .    .
aataataaaaaacaaaagattaaagcataagtgacgtcccctacctccttttttatcttt
```

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.    .    .    .    .    .    .    .    .    .    .    .
tactgtgattattcttcatcttccttccttttcatgtcatttatatgttcttatgtaaa

.    .    .    .    .    .    .    .    .    .    .    .
attactttcatctagaataggaataatgtgaactgaaatcacctaacctattaggagtta

.    .    .    .    .    .    .    .    .    .    .    .
ggggagggagactgtgtgtaatatttgcgtgcttaaatattttcaatgaaaagttacttt

.    .    .    .    .    .    .    .    .    .    .    .
gatttagttttttatgttactacataattatgataggctacgttttcatttttttatcag

  |9651     |9661     |9671     |9681     |9691     |9701
ATGTCTTCTCCTAATTGTGAGATATATTATCAAAGTCCTTTATCACTTTGTATGGCCAAA
M  S  S  P  N  C  E  I  Y  Y  Q  S  P  L  S  L  C  M  A  K
            |3221                       |3231

  |9711     |9721     |9731     |9741     |9751     |9761
AGGAAGTCTGTTTCCACACCTGTCTCAGCCCAGATGACTTCAAAGTCTTGTAAAGGGGAG
R  K  S  V  S  T  P  V  S  A  Q  M  T  S  K  S  C  K  G  E
            |3241                       |3251

  |9771     |9781     |9791     |9801     |9811     |9821
AAAGAGATTGATGACCAAAAGAACTGCAAAAAGAGAAGAGCCTTGGATTTCTTGAGTAGA
K  E  I  D  D  Q  K  N  C  K  K  R  R  A  L  D  F  L  S  R
            |3261                       |3271

  |9831     |9841     |9851     |9861     |9871     |9881
CTGCCTTTACCTCCACCTGTTAGTCCCATTTGTACATTTGTTTCTCCGGCTGCACAGAAG
L  P  L  P  P  P  V  S  P  I  C  T  F  V  S  P  A  A  Q  K
            |3281                       |3291

  |9891     |9901     |9911     |9921     |9931     |9941
GCATTTCAGCCACCAAGGAGTTGTGGCACCAAATACGAAACACCCATAAAGAAAAAAGAA
A  F  Q  P  P  R  S  C  G  T  K  Y  E  T  P  I  K  K  K  E
            |3301                       |3311

  |9951     |9961     |9971     |9981     |9991     |10001
CTGAATTCTCCTCAGATGACTCCATTTAAAAAATTCAATGAAATTTCTCTTTTGGAAAGT
L  N  S  P  Q  M  T  P  F  K  K  F  N  E  I  S  L  L  E  S
            |3321                       |3331

  |10011    |10021    |10031    |10041    |10051    |10061
AATTCAATAGCTGACGAAGAACTTGCATTGATAAATACCCAAGCTCTTTTGTCTGGTTCA
N  S  I  A  D  E  E  L  A  L  I  N  T  Q  A  L  L  S  G  S
            |3341                       |3351
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  |10071    |10081    |10091    |10101    |10111    |10121
ACAGGAGAAAAACAATTTATATCTGTCAGTGAATCCACTAGGACTGCTCCCACCAGTTCA
T  G  E  K  Q  F  I  S  V  S  E  S  T  R  T  A  P  T  S  S
            |3361                       |3371

  |10131    |10141    |10151    |10161    |10171    |10181
GAAGATTATCTCAGACTGAAACGACGTTGTACTACATCTCTGATCAAAGAACAGGAGAGT
E  D  Y  L  R  L  K  R  R  C  T  T  S  L  I  K  E  Q  E  S
            |3381                       |3391

  |10191    |10201    |10211    |10221    |10231    |10241
TCCCAGGCCAGTACGGAAGAATGTGAGAAAAATAAGCAGGACACAATTACAACTAAAAAA
S  Q  A  S  T  E  E  C  E  K  N  K  Q  D  T  I  T  T  K  K
            |3401                       |3411

  |10251 |+1       |+11      |+21      |+31      |+41      |+51
TATATCTAAGCATTTGCAAAGGCGACAATAAATTATTGACGCTTAACCTTTCCAGTTTAT
Y  I  *


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

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

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

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

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

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

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

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

         |+541     |+551     |+561     |+571     |+581     |+591
```

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AGTTTAGCTACTATTTTAGGGGATTTTTTTTTAGAGGTAACTCACTATGAAATAGTTCTCC

         |+601      |+611      |+621      |+631      |+641      |+651
TTAATGCAAATATGTTGGTTCTGCTATAGTTCCATCCTGTTCAAAAGTCAGGATGAATAT

         |+661      |+671      |+681      |+691      |+701      |+711
GAAGAGTGGTGTTTCCTTTTGAGCAATTCTTCATCCTTAAGTCAGCATGATTATAAGAAA

         |+721      |+731      |+741      |+751      |+761      |+771
AATAGAACCCTCAGTGTAACTCTAATTCCTTTTTACTATTCCAGTGTGATCTCTGAAATT

         |+781      |+791      |+801      |+811      |+821      |+831
AAATTACTTCAACTAAAAATTCAAATACTTTAAATCAGAAGATTTCATAGTTAATTTATT

         |+841      |+851      |+861      |+871      |+881      |+891
TTTTTTTTCAACAAAATGGTCATCCAAACTCAAACTTGAGAAAATATCTTGCTTTCAAAT

         |+901 .    .    .    .    .    .    .    .    .
TGGCACTGATTctgcctgctttatttttagcgctatcacaggacccagagcctatgccct

.    .    .    .    .    .    .    .    .    .    .    .
tttaaacttaccacaaaagcagaagattaattcaatttaagatgatactctcatttgtta

.    .    .    .    .    .    .    .    .    .    .    .
cgtccttttttttttttttggagatggagtcttgctttgtcgcccatgctggagtgcag

.    .    .    .    .    .    .    .    .    .    .    .
tggcatgatcctggctcactgcagcctccacttcccgggttcacgtaattctcccacctc

.    .    .    .    .    .    .    .    .    .    .    .
aagcctccctagtagctgggattacagggacgcaccaccatgcccagctaatttttgcat

.    .    .
ttttagtagag


LRG Parser: Version: 0.3, Version Date: 11/02/2015
Reader: Version: 0.3, Version Date: 11/02/2015
Writer: Version: 0.3, Version Date: 11/02/2015
Control: Version: 0.3, Version Date: 11/02/2015
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