Gene: ENSG00000109501 - Sequence: ENST00000226760
Transcript: ENST00000226760 - Protein: ENSP00000226760
Date : February 25, 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

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Exon 1 | Start: 501 | End: 666 | Length: 165

.    .    .    .    .    .    .    .    .    .    .    .
gaaggcgagcggcctcgctaagcaactggacgttccgcgggcggggcgggggcggggccg

.    .    .    .    .    .    .    .    .    .    .    .
gggcccgagtccgctcggaaactttcgctgtgggcgagccggacccgccttctggcccct

.    .    .    .    .    .    .    .    .    .    .    .
cgggcccaaccacgcaggggagtgccgggccgcagctaggcgaggcgcaccgtgattgg

.    .    .    .    .    .    .    .    .    .    .    .
cggagatgtggagtgattggcggctacaccggccactcagcaggccgagctggcgccgca

.    .    .    .    .    .    .    .    .    .    .    .
tccgggggggccgcgtctggagtggagggaggccgaaggccccgcccctgccccgccccct

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

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

 |-49      |-39      |-29      |-19      |-9      .    .    .
GGCCCCAGGGCGTCGCAGCGCCGCGTGCGGCCCACTCACGGGCCGgtgagtacttcggcg

    .    .    .    .    .    .    .    .    .    .    .    .
ctggggcagtggcgcggtggctgtgggcagcgcgcaggaggcgggcaagagccctgaggc

    .    .    .    .    .    .    .    .    .    .    .    .
actgtcctcttcgggcctcagtttccccttccgagctgatgggtggctggccccaaagtc

    .    .    .    .    .    .    .    .    .    .    .    .
ccgacaaggtccccgaagttggagggccgggggtcccgcccgctctgcaacgcgcaaggc
```

```
    .    .    .    .    .    .    .    .    .    .    .    .
gacccctgttccgggcccgaacgggtcacccgggggcgcgccccggtccccgcgcgct

    .    .    .    .    .    .    .    .    .
gtcgcctggagccccgccgcgggcgggacagcaggcccgagaggc
```

Exon 2 | Start: 8102 | End: 8339 | Length: 237

```
.    .    .    .    .    .    .    .    .    .    .    .
gaaggccagggttgtgtggctcatgcccagtgaggcagggactccaggcctcggcatgtg

.    .    .    .    .    .    .    .    .    .    .    .
caggtctgagattgtaagtgccatgccatctgtagagtcacgtgggtgagtgtcctccca

.    .    .    .    .    .    .    .    .    .    .    .
tggtttcctccctggaagcggtgctggcccatggggactgtactgagtgtcagcgagatc

.    .    .    .    .    .    .    .    .    .    .    .
ctgtatggagtgtctggcagctcccacctgcctccctctgcttttctgtctccagcagac

.    .    .    .    .    .    .    .    .    .    .    .
actaagtgccagagcgggctctgccggtgctggatgtgcctgaccttgacttttcttcca

     |1        |11       |21       |31       |41       |51
GCAGGATGGACTCCAACACTGCTCCGCTGGGCCCCTCCTGCCCACAGCCCCCGCCAGCAC
     M  D  S  N  T  A  P  L  G  P  S  C  P  Q  P  P  P  A  P
     |1                          |11

     |61       |71       |81       |91       |101      |111
CGCAGCCCCAGGCGCGTTCCCGACTCAATGCCACAGCCTCGTTGGAGCAGGAGAGGAGCG
  Q  P  Q  A  R  S  R  L  N  A  T  A  S  L  E  Q  E  R  S  E
     |21                         |31

     |121      |131      |141      |151      |161      |171
AAAGGCCCCGAGCACCCGGACCCCAGGCTGGCCCTGGCCCTGGTGTTAGAGACGCAGCGG
  R  P  R  A  P  G  P  Q  A  G  P  G  P  G  V  R  D  A  A  A
     |41                         |51

     |181      |191      |201      |211      |221      |231
CCCCCGCTGAACCCCAGGCCCAGCATACCAGGAGCCGGGAAAGAGCAGACGGCACCGgta
  P  A  E  P  Q  A  Q  H  T  R  S  R  E  R  A  D  G  T  G
     |61                         |71

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

```
agggagcaggctgggaagcccaggctggggatgttcagggatagctgggtgggaacgggg

 .    .    .    .    .    .    .    .    .    .    .    .
ttcagccacccctggagggtccccccgccaggtcctctgcagttcagcattgtgcagctc

 .    .    .    .    .    .    .    .    .    .    .    .
ccatgctgtgcacaggcgtccatccagtggggctacccacctcctcagagccttgcacct

 .    .    .    .    .    .    .    .    .    .    .    .
gtcacctttgtggcacccactcgaggtggtgctggtgcccccactcctctgcagtccttc

 .    .    .    .    .    .    .    .    .    .    .    .
tcttcccagggcctctgcagcacttcacagcttccatttgcaacagcgtccaaacat
```

Exon 3 | Start: 17744 | End: 17827 | Length: 83

```
.    .    .    .    .    .    .    .    .    .    .    .
cttggctctgtgctcgcctccttcccatgcctcccaccccgagcgctttgagttgctgtt

.    .    .    .    .    .    .    .    .    .    .    .
gaaccacctcacccgcatagagtttgctcatcttgctctggcgctgcttgtgaccggaag

.    .    .    .    .    .    .    .    .    .    .    .
gcaaacagtggctttctgggcatcttccctgtctgtgtctgtgtctctctgtactcctgg

.    .    .    .    .    .    .    .    .    .    .    .
cctggatttgaaagtgacaagcagcagcagatctgaagaccctcatgccttgtcccctcc

.    .    .    .    .    .    .    .    .    .    .    .
atcctgacaagtgacaaagtctggctttgtgacatgtgtgtttgtttcttctgtgttaaa

        |241      |251      |261      |271      |281      |291
GGCCTACAAAGGGAGACATGGAAATCCCCTTTGAAGAAGTCCTGGAGAGGGCCAAGGCCG
  P   T   K   G   D   M   E   I   P   F   E   E   V   L   E   R   A   K   A   G
        |81                             |91

        |301      |311     .    .    .    .    .    .    .
GGGACCCCAAGGCACAGACTGAGgtgaggactgcggtgccggcagggacttcgggacgcg
  D   P   K   A   Q   T   E
        |101

  .    .    .    .    .    .    .    .    .    .    .    .
gcccccggcacaacaggcctggccacgagctccacagcccacagagaagtgtcggtgcct
```

```
  .    .    .    .    .    .    .    .    .    .    .    .
gagatcggggtcaggagccagcgtggtgcaccctaccccacttgagccccatgttggtag

  .    .    .    .    .    .    .    .    .    .    .    .
ggtgcccatgttcactgtgccagttttcctcctggcactcctctggggagcagcgctcat

  .    .    .    .    .    .    .    .    .    .    .    .
ccccctttgtccaactcacacctcatcttgggcatcacctcctccaggatgacctcctg

  .    .    .    .    .
gcttcctgcagctgcctgctcag
```

Exon 4 | Start: 19638 | End: 19783 | Length: 145

```
.    .    .    .    .    .    .    .    .    .    .    .
tgagccttggcaggcaggagcaactcaaggaagagaacctgtaccagtaccagtcggagc

.    .    .    .    .    .    .    .    .    .    .    .
ccgtgtctccctcgccgtgtggatggggtggccacaccttcctcaccgtgttttgaggag

.    .    .    .    .    .    .    .    .    .    .    .
cgagtggccggaggctcagtagggcctagcctagtggacatgcctggtgtgaccccattt

.    .    .    .    .    .    .    .    .    .    .    .
ctgcccttccttcctggcctgggtgacaaagggaagtgggtgaaaggaggtgggctggc

.    .    .    .    .    .    .    .    .    .    .    .
agggagcatggggtgggagagggtcggagaatctggaggctgactggtgtctggcttgca

     |321      |331      |341      |351      |361      |371
GTGGGGAAGCACTACCTGCAGTTGGCCGGCGACACGGATGAAGAACTCAACAGCTGCACC
V  G  K  H  Y  L  Q  L  A  G  D  T  D  E  E  L  N  S  C  T
               |111                        |121

     |381      |391      |401      |411      |421      |431
GCTGTGGACTGGCTGGTCCTCGCCGCGAAGCAGGGCCGTCGCGAGGCTGTGAAGCTGCTT
A  V  D  W  L  V  L  A  A  K  Q  G  R  R  E  A  V  K  L  L
               |131                        |141

     |441      |451          .    .    .    .    .    .    .
CGCCGGTGCTTGGCGGACAGAAGAGgtgggtctgtgtgaggcttagaacagcctctggag
R  R  C  L  A  D  R  R  G
               |151
```

```
    .    .    .    .    .    .    .    .    .    .    .    .
ggttgagcagcttgtaatgctgcttgctaactgaacaactaaaatcttaccaaacctaac

    .    .    .    .    .    .    .    .    .    .    .    .
gctggtgatgctgttgggaaatttcagtttctgttttgctggtggccttctcattttaga

    .    .    .    .    .    .    .    .    .    .    .    .
cactgtttctggacttaacatgggatatttaacagaccaagccattttcattctctttgg

    .    .    .    .    .    .    .    .    .    .    .    .
cttgtgttggtatctccaagtggtaactatacatcctgcttccctgctgggttctgatcc

    .    .    .    .    .
aaactgagacatcgatcctgggttc
```

Exon 5 | Start: 21848 | End: 22019 | Length: 171

```
.    .    .    .    .    .    .    .    .    .    .    .
gcctccgggtctgcacctctgagagaggggaggaacaggaagaggctgccttcttcccgc

.    .    .    .    .    .    .    .    .    .    .    .
cagcatgtagggggcacttgggggcgtctggtgggagaccagtctggcctcccagctgga

.    .    .    .    .    .    .    .    .    .    .    .
gagtgggcgtggcgcgatgtcctcttgagtcagatgtccatgcatccttccctggtaacc

.    .    .    .    .    .    .    .    .    .    .    .
aagtcctgacaccttctatgagtctcgctcgaaagccttccaggcagagttggcagggtc

.    .    .    .    .    .    .    .    .    .    .    .
agagtggcaccgaaagcctaggcagggcacacaaggcctttgaccacatcctatccctca

|461      |471      |481      |491      |501      |511
GCATCACGTCCGAGAACGAACGGGAGGTGAGGCAGCTCTCCTCCGAGACCGACCTGGAGA
  I  T  S  E  N  E  R  E  V  R  Q  L  S  S  E  T  D  L  E  R
                   |161                      |171

|521      |531      |541      |551      |561      |571
GGGCCGTGCGCAAGGCAGCCCTGGTCATGTACTGGAAGCTCAACCCCAAGAAGAAGAAGC
  A  V  R  K  A  A  L  V  M  Y  W  K  L  N  P  K  K  K  K  Q
                   |181                      |191

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

```
  V  A  V  A  E  L  L  E  N  V  G  Q  V  N  E  H  D
                    |201                        |211

.     .     .     .     .     .     .     .     .     .     .     .
ttcaccctgggcaccagccttccctgggcgccagccttcccacaggagccaggaccttcc

.     .     .     .     .     .     .     .     .     .     .     .
cataggggctgggaccttccctcaggggctgggtcttcccacaggagccgggaccttccc

.     .     .     .     .     .     .     .     .     .     .     .
tgtgaggacagggcccttccttgtggggaccaggggaccagaaccttcctgtagagaccg

.     .     .     .     .     .     .     .     .     .     .     .
tgccctagtggtgaggtgtgtgggtggcattttgacagcatctgccctggctcaagtgct

.     .     .     .     .     .     .     .     .     .     .
cactcattgaataaaccagagggtattctgcccagtgctctgtgaccacgt
```

Exon 6 | Start: 22568 | End: 22649 | Length: 81

```
.     .     .     .     .     .     .     .     .     .     .     .
tcactcattgaataaaccagagggtattctgcccagtgctctgtgaccacgtctaccaat

.     .     .     .     .     .     .     .     .     .     .     .
gggacggactgtgtccatcaccaagtgggagcacgctacgtggtgctgagtccaccccag

.     .     .     .     .     .     .     .     .     .     .     .
ctactggaggtacagaggtgtggcccctgctctgcctgccctgggggccctatgatcccc

.     .     .     .     .     .     .     .     .     .     .     .
agaacgtaggatgcccctggaactggcgtgccctaggaacagtgcgccagtttctggtgg

.     .     .     .     .     .     .     .     .     .     .     .
gctgcagggcacgaggagatagtcaacttgtctgactgttaatccaccctgtcccctgca

         |641      |651      |661      |671      |681      |691
ATGGAGGGGCGCAGCCAGGCCCCGTGCCCAAGTCCCTGCAGAAGCAGAGGCGCATGCTGG
  G  G  A  Q  P  G  P  V  P  K  S  L  Q  K  Q  R  R  M  L  E
                           |221                        |231

         |701      |711  .     .     .     .     .     .     .
AGCGCCTGGTCAGCAGCGAGTgtgagtgcagcccctgccccgtctcacccatgcctccca
  R  L  V  S  S  E  S
```

```
.    .    .    .    .    .    .    .    .    .    .    .
gcctgcacctgcagggcgacctctccttcctgtgcgactccatcctggcctgccctatct

.    .    .    .    .    .    .    .    .    .    .    .
cacccgtgcctcccagcctgcgcctgcagggcgacctctccttcctgtgcgaccccatcc

.    .    .    .    .    .    .    .    .    .    .    .
tggccctgctaggatctcaggcggtccgtttggggctcagtgttctggacgctgggagta

.    .    .    .    .    .    .    .    .    .    .    .
gaccctgcccacctggagcgcacgcactggagggaaggcagacccaggacagaaaccatg

.    .    .    .    .
atgtgccagtccctcttggac
```

Exon 7 | Start: 25692 | End: 25841 | Length: 149

```
.    .    .    .    .    .    .    .    .    .    .    .
tgggtgagtggccccaggcataaggagctaggcagagagggacacttggggtgggggaca

.    .    .    .    .    .    .    .    .    .    .    .
gcacacccaggggccgggggccaggagtggaggctggcacttggcaaacctgccccttc

.    .    .    .    .    .    .    .    .    .    .    .
ctcctcacccagcctggtcctcaaccctcaggccgcccagggaagggtttcctccacctg

.    .    .    .    .    .    .    .    .    .    .    .
aacccactcagctcctttcttagcttggccccacgccaccgtccccagcccattgctctg

.    .    .    .    .    .    .    .    .    .    .    .
tgtgagggtggcagtggggctgcagtgtggggcgcccatgctgttttctctcatgcttca

        |721      |731      |741      |751      |761      |771
CCAAGAACTACATCGCGCTGGATGACTTTGTGGAGATCACTAAGAAGTACGCCAAGGGCG
  K   N   Y   I   A   L   D   D   F   V   E   I   T   K   K   Y   A   K   G   V
        |241                          |251

        |781      |791      |801      |811      |821      |831
TCATCCCCAGCAGCCTGTTCCTGCAGGACGACGAAGATGATGACGAGCTGGCGGGGAAGA
  I   P   S   S   L   F   L   Q   D   D   E   D   D   D   E   L   A   G   K   S
        |261                          |271

        |841      |851      |861 .    .    .    .    .    .
```

```
GCCCTGAGGACCTGCCACTGCGTCTGAAGgtgagtgaccaagaccccggtcaggccggag
  P  E  D  L  P  L  R  L  K
        |281

   .    .    .    .    .    .    .    .    .    .    .    .
cctgcctcccaaggactcgcgcacctcaggcagggcaccttccaggaagctgcaggtggg

   .    .    .    .    .    .    .    .    .    .    .    .
gaggttcgcgcctaacaaagagtgtcttacagccgtgccgctggtacctttgggtcatca

   .    .    .    .    .    .    .    .    .    .    .    .
tctatcgtcataaggatgtgtcctcgggagagaggcctttcttttctgcgccgtcaggct

   .    .    .    .    .    .    .    .    .    .    .    .
cagaaaccaggggcggtgttgggcaggagtgctaggatggcaagcaaggggcccctgggt

   .    .    .    .    .    .
ctttctgtgcagtgtagggggcagtgggg
```

Exon 8 | Start: 31308 | End: 33917 | Length: 2609

```
.    .    .    .    .    .    .    .    .    .    .    .
ggaggtcttgcagggagagaagcacacatgcatctagtcacgctggtagaaggtggggag

.    .    .    .    .    .    .    .    .    .    .    .
ccaggcacggggcagaggggggctccaggcccagaagagggagggctcacagggaccgcg

.    .    .    .    .    .    .    .    .    .    .    .
agcatggggagggccacctggagaaggggggagggaggaccactaggatggggctggtga

.    .    .    .    .    .    .    .    .    .    .    .
tgggaaaacgcaagggtgcgggttccttttgcccagaggcagggtggtcagagggaggcg

.    .    .    .    .    .    .    .    .    .    .    .
tgagatgggagcagtgggggtcctgtcccagcctcgttcccacgtaccatctttccccca

         |871      |881      |891      |901      |911      |921
GTGGTCAAGTACCCCCTGCACGCCATCATGGAGATCAAGGAGTACCTGATTGACATGGCC
V  V  K  Y  P  L  H  A  I  M  E  I  K  E  Y  L  I  D  M  A
         |291                        |301

         |931      |941      |951      |961      |971      |981
TCCAGGGCAGGCATGCACTGGCTGTCCACCATCATCCCCACGCACCACATCAACGCGCTC
S  R  A  G  M  H  W  L  S  T  I  I  P  T  H  H  I  N  A  L
```

```
         |311                          |321

         |991      |1001     |1011     |1021     |1031     |1041
ATCTTCTTCTTCATCGTCAGCAACCTCACCATCGACTTCTTCGCCTTCTTCATCCCGCTG
I  F  F  F  I  V  S  N  L  T  I  D  F  F  A  F  F  I  P  L
         |331                          |341

         |1051     |1061     |1071     |1081     |1091     |1101
GTCATCTTCTACCTGTCCTTCATCTCCATGGTGATCTGCACCCTCAAGGTGTTCCAGGAC
V  I  F  Y  L  S  F  I  S  M  V  I  C  T  L  K  V  F  Q  D
         |351                          |361

         |1111     |1121     |1131     |1141     |1151     |1161
AGCAAGGCCTGGGAGAACTTCCGCACCCTCACCGACCTGCTGCTGCGCTTCGAGCCCAAC
S  K  A  W  E  N  F  R  T  L  T  D  L  L  L  R  F  E  P  N
         |371                          |381

         |1171     |1181     |1191     |1201     |1211     |1221
CTGGATGTGGAGCAGGCCGAGGTCAACTTCGGCTGGAACCACCTGGAGCCCTATGCCCAT
L  D  V  E  Q  A  E  V  N  F  G  W  N  H  L  E  P  Y  A  H
         |391                          |401

         |1231     |1241     |1251     |1261     |1271     |1281
TTCCTGCTCTCTGTCTTCTTCGTCATCTTCTCCTTCCCCATCGCCAGCAAGGACTGCATC
F  L  L  S  V  F  F  V  I  F  S  F  P  I  A  S  K  D  C  I
         |411                          |421

         |1291     |1301     |1311     |1321     |1331     |1341
CCCTGCTCGGAGCTGGCTGTCATCACCGGCTTCTTTACCGTGACCAGCTACCTGAGCCTG
P  C  S  E  L  A  V  I  T  G  F  F  T  V  T  S  Y  L  S  L
         |431                          |441

         |1351     |1361     |1371     |1381     |1391     |1401
AGCACCCATGCAGAGCCCTACACGCGCAGGGCCCTGGCCACCGAGGTCACCGCCGGCCTG
S  T  H  A  E  P  Y  T  R  R  A  L  A  T  E  V  T  A  G  L
         |451                          |461

         |1411     |1421     |1431     |1441     |1451     |1461
CTATCGCTGCTGCCCTCCATGCCCTTGAATTGGCCCTACCTGAAGGTCCTTGGCCAGACC
L  S  L  L  P  S  M  P  L  N  W  P  Y  L  K  V  L  G  Q  T
         |471                          |481

         |1471     |1481     |1491     |1501     |1511     |1521
TTCATCACCGTGCCTGTCGGCCACCTGGTCGTCCTCAACGTCAGCGTCCCGTGCCTGCTC
F  I  T  V  P  V  G  H  L  V  V  L  N  V  S  V  P  C  L  L
         |491                          |501
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         |1531     |1541     |1551     |1561     |1571     |1581
TATGTCTACCTGCTCTATCTCTTCTTCCGCATGGCACAGCTGAGGAATTTCAAGGGCACC
Y  V  Y  L  L  Y  L  F  F  R  M  A  Q  L  R  N  F  K  G  T
         |511                        |521

         |1591     |1601     |1611     |1621     |1631     |1641
TACTGCTACCTTGTGCCCTACCTGGTGTGCTTCATGTGGTGTGAGCTCTCCGTGGTCATC
Y  C  Y  L  V  P  Y  L  V  C  F  M  W  C  E  L  S  V  V  I
         |531                        |541

         |1651     |1661     |1671     |1681     |1691     |1701
CTGCTGGAGTCCACCGGCCTGGGGCTGCTCCGCGCCTCCATCGGCTACTTCCTCTTCCTC
L  L  E  S  T  G  L  G  L  L  R  A  S  I  G  Y  F  L  F  L
         |551                        |561

         |1711     |1721     |1731     |1741     |1751     |1761
TTTGCCCTCCCCATCCTGGTGGCCGGCCTGGCCCTGGTGGGCGTGCTGCAGTTCGCCCGG
F  A  L  P  I  L  V  A  G  L  A  L  V  G  V  L  Q  F  A  R
         |571                        |581

         |1771     |1781     |1791     |1801     |1811     |1821
TGGTTCACGTCTCTGGAGCTCACCAAGATCGCAGTCACCGTGGCGGTCTGTAGTGTGCCC
W  F  T  S  L  E  L  T  K  I  A  V  T  V  A  V  C  S  V  P
         |591                        |601

         |1831     |1841     |1851     |1861     |1871     |1881
CTGCTGTTGCGCTGGTGGACCAAGGCCAGCTTCTCTGTGGTGGGGATGGTGAAGTCCCTG
L  L  L  R  W  W  T  K  A  S  F  S  V  V  G  M  V  K  S  L
         |611                        |621

         |1891     |1901     |1911     |1921     |1931     |1941
ACGCGGAGCTCCATGGTCAAGCTCATCCTGGTGTGGCTCACGGCCATCGTGCTGTTCTGC
T  R  S  S  M  V  K  L  I  L  V  W  L  T  A  I  V  L  F  C
         |631                        |641

         |1951     |1961     |1971     |1981     |1991     |2001
TGGTTCTATGTGTACCGCTCAGAGGGCATGAAGGTCTACAACTCCACACTGACCTGGCAG
W  F  Y  V  Y  R  S  E  G  M  K  V  Y  N  S  T  L  T  W  Q
         |651                        |661

         |2011     |2021     |2031     |2041     |2051     |2061
CAGTATGGTGCGCTGTGCGGGCCACGCGCCTGGAAGGAGACCAACATGGCGCGCACCCAG
Q  Y  G  A  L  C  G  P  R  A  W  K  E  T  N  M  A  R  T  Q
         |671                        |681
```

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         |2071     |2081     |2091     |2101     |2111     |2121
ATCCTCTGCAGCCACCTGGAGGGCCACAGGGTCACGTGGACCGGCCGCTTCAAGTACGTC
I  L  C  S  H  L  E  G  H  R  V  T  W  T  G  R  F  K  Y  V
         |691                        |701

         |2131     |2141     |2151     |2161     |2171     |2181
CGCGTGACTGACATCGACAACAGCGCCGAGTCTGCCATCAACATGCTCCCGTTCTTCATC
R  V  T  D  I  D  N  S  A  E  S  A  I  N  M  L  P  F  F  I
         |711                        |721

         |2191     |2201     |2211     |2221     |2231     |2241
GGCGACTGGATGCGCTGCCTCTACGGCGAGGCCTACCCTGCCTGCAGCCCTGGCAACACC
G  D  W  M  R  C  L  Y  G  E  A  Y  P  A  C  S  P  G  N  T
         |731                        |741

         |2251     |2261     |2271     |2281     |2291     |2301
TCCACGGCCGAGGAGGAGCTCTGTCGCCTTAAGCTGCTGGCCAAGCACCCCTGCCACATC
S  T  A  E  E  E  L  C  R  L  K  L  L  A  K  H  P  C  H  I
         |751                        |761

         |2311     |2321     |2331     |2341     |2351     |2361
AAGAAGTTCGACCGCTACAAGTTTGAGATTACCGTGGGCATGCCATTCAGCAGCGGCGCT
K  K  F  D  R  Y  K  F  E  I  T  V  G  M  P  F  S  S  G  A
         |771                        |781

         |2371     |2381     |2391     |2401     |2411     |2421
GACGGCTCGCGCAGCCGCGAGGAGGACGACGTCACCAAGGACATCGTGCTGCGGGCCAGC
D  G  S  R  S  R  E  E  D  D  V  T  K  D  I  V  L  R  A  S
         |791                        |801

         |2431     |2441     |2451     |2461     |2471     |2481
AGCGAGTTCAAGAGCGTGCTGCTCAGCCTGCGCCAGGGCAGCCTCATCGAGTTCAGCACC
S  E  F  K  S  V  L  L  S  L  R  Q  G  S  L  I  E  F  S  T
         |811                        |821

         |2491     |2501     |2511     |2521     |2531     |2541
ATCCTGGAGGGCCGCCTGGGCAGCAAGTGGCCTGTCTTCGAGCTCAAGGCCATCAGCTGC
I  L  E  G  R  L  G  S  K  W  P  V  F  E  L  K  A  I  S  C
         |831                        |841

         |2551     |2561     |2571     |2581     |2591     |2601
CTCAACTGCATGGCCCAGCTCTCACCCACCAGGCGGCACGTGAAGATCGAGCACGACTGG
L  N  C  M  A  Q  L  S  P  T  R  R  H  V  K  I  E  H  D  W
         |851                        |861

         |2611     |2621     |2631     |2641     |2651     |2661
```

```
CGCAGCACCGTGCATGGCGCCGTGAAGTTCGCCTTCGACTTCTTTTTCTTCCCATTCCTG
R  S  T  V  H  G  A  V  K  F  A  F  D  F  F  F  F  P  F  L
         |871                          |881

         |2671        |*11       |*21       |*31       |*41
TCGGCGGCCTGAGGATGGTCCGCCACGAGGAGCTTCCAGTGCATGTTGCCATGAGGCCTT
S  A  A  *
         |891

  |*51       |*61       |*71       |*81       |*91       |*101
TCCCCAGTGTGGCCCCAGCCCGACAGGCATGCACCAGTGCCGCCTGTGCCCACGTGTGCA

  |*111      |*121      |*131      |*141      |*151      |*161
GACTGTGGCTGCAGAGACCTTGCGACCATGTGTAGATTGCGTGGACCCCGACAAAGGGAA

  |*171      |*181      |*191      |*201      |*211      |*221
GGCTGCTGTGTAGCTCTGTCCACTCTGAATACCAAGTGTGTTGGGAATTGCATGCCATCT

  |*231      |*241      |*251      |*261      |*271      |*281
CCACCCTGAGCCTGACCTTTCTGAGTGACATGGGTGTGCCAGGCTAGACTAGGAGGTTCC

  |*291      |*301      |*311      |*321      |*331      |*341
GGTGTCTGGAAAAGCACTTTACAGATGAGATTCCCTCTCCTCCCCCACCTTCAAGCACCC

  |*351      |*361      |*371      |*381      |*391      |*401
TGTTCCCTCTTTCTTTCTTTTGTGTTGGATTTGTTTAAAAACCAAATAAGCATCTGTGTA

  |*411      |*421      |*431      |*441      |*451      |*461
ACCTCCACAGTAGCATTTCTTATTTGTTTGGTCACTGCTACACCTTAGCAGCTCTTCCCC

  |*471      |*481      |*491      |*501      |*511      |*521
TTTCCTGGGGGATGTGCACGGCAGCTTGAGCCTGTCACGTGGTCAAGGCCCGGCCCCATC

  |*531      |*541      |*551      |*561      |*571      |*581
AGAGGCTGGGGGAGGCGGCACATTGGCAGTGTGTCACACTGAGCTGGGCACCACAGGCTG

  |*591      |*601      |*611      |*621      |*631      |*641
CCTCATGACCCTCCTGTCCAGCAGGTAGTGGGTGAATGTGTGAAGGTCTTGCCTGAATCC

  |*651      |*661      |*671      |*681      |*691      |*701
ATCAGGACTTGGGAAACAGAGAACCCTGTGGGGGCGGCTGTGGGGGAGGTCCCTGCCAGT

  |*711      |*721      |*731      |*741      |*751      |*761
GTTTAGAAGAGCCTGACTGTGTTCAGTGCCTTGGAGCAGAAAGCCAGGGTCCTGAGTGGC

  |*771      |*781      |*791       .    .    .    .    .    .
```

```
TGAAATAAAAGCCTCTGGTGGAACCTGCAgcgctttccttcctttctttaccgaaaagaa

   .    .    .    .    .    .    .    .    .    .    .    .
gtctttcttgtacgtgcgtgagaatcagcagagcctgcactcctgttgaatgaaatgcaa

   .    .    .    .    .    .    .    .    .    .    .    .
gtgcaatttgagttataaaagagcaaggttgatgtttcacagttgatggcttcctgccac

   .    .    .    .    .    .    .    .    .    .    .    .
agcgagaccctggcttcatctccagctggaggggcccctggggcatctgccgtaactgtg

   .    .    .    .    .    .    .    .    .    .    .    .
gggtggcctgggcatgggctgcctgtgcagagagacctgtgctgaaggtgaccatggagt

   .    .    .    .    .    .
gtcagcccagccatcttcagatcttactg


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