Gene: MECP2 - Sequence: NG_007107.2
Transcript: NM_004992.3 - Protein: NP_001104262.1
Date : February 23, 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: 44390 | End: 44518 | Length: 128

.    .    .    .    .    .    .    .    .    .    .    .
actaaaccagtccctccgcgcccaagccgcctcttttccccaaacgacggccgaaagcag

.    .    .    .    .    .    .    .    .    .    .    .
ccaatcaacagctggaggggtccgccccctttccctggccgaaatggacaggaaatctc

.    .    .    .    .    .    .    .    .    .    .    .
gccaattgacggcatcgccgctgagacctccccctccccgtcctccccgtcccagccc

.    .    .    .    .    .    .    .    .    .    .    .
ggccatcacagccaatgacgggcgggctcgcagcggcgccgagggcggggcgcgggcgcg

.    .    .    .    .    .    .    .    .    .    .    .
caggtgcagcagcgcgcgggccggccaagagggcggggcgcgacgtcggccgtgcggggt

       |-59      |-49      |-39      |-29      |-19      |-9
CCGGCGTCGGCGGCGCGCGCGCTCCCTCCTCTCGGAGAGAGGGCTGTGGTAAAAGCCGTC

      |1        |11       |21       |31       |41       |51
CGGAAAATGGCCGCCGCCGCCGCCGCCGCCGCGCCGAGCGGAGGAGGAGGAGGAGGCGAGGAG
      M  A  A  A  A  A  A  A  P  S  G  G  G  G  G  G  E  E
      |1                           |11

      |61   .    .    .    .    .    .    .    .    .    .
GAGAGACTgtgagtgggaccgccgtggccgcgggcggggacccttgccgggggggcggggg
E  R  L
      |21

  .    .    .    .    .    .    .    .    .    .    .    .
tcaggggcgggacgtggcgcgggaggggcccgcggggtcggacgacacggctggcggatg

  .    .    .    .    .    .    .    .    .    .    .    .
gcgtccctcctctctaccctccccctcccgccgccgccggtggcgactctcccctcggcc
```

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  .    .    .    .    .    .    .    .    .    .    .    .
cgtcacccgtgctcgcgggtgaccgtcctcggcgcggcctccctggagccgccttcgcct

  .    .    .    .    .    .    .    .    .    .    .    .
gacgcccctcttcctcccgccctcgacgcgcatcccggcccccggccccgcgggcgcccc

  .    .
tgtcgccg
```

Exon 2 | Start: 49813 | End: 49937 | Length: 124

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.    .    .    .    .    .    .    .    .    .    .    .
tagaagaaatacttgccagaaatcgccactcatggtatgctttgtagtgtcgaagtgtc

.    .    .    .    .    .    .    .    .    .    .    .
ccctagaggtgacaaggcttgtgatagtgttgattctaacaagcatgaatctttccttta

.    .    .    .    .    .    .    .    .    .    .    .
ttttagcactgtgtgttacgtgccagtaatttgcagcttatcctttgtttctagctaggt

.    .    .    .    .    .    .    .    .    .    .    .
aagctgggaaatagcctagtactttgtctatgtgtttatcttcaaaatgtcccaaatagc

.    .    .    .    .    .    .    .    .    .    .    .
cctgggaaaaaggtcgtgcagctcaatgggggctttcaacttacaattttctttgtttta

        |71       |81       |91       |101      |111      |121
GCTCCATAAAAATACAGACTCACCAGTTCCTGCTTTGATGTGACATGTGACTCCCCAGAA
 E  E  K  S  E  D  Q  D  L  Q  G  L  K  D  K  P  L  K  F  K
                           |31                           |41

        |131      |141      |151      |161      |171      |181
TACACCTTGCTTCTGTAGACCAGCTCCAACAGGATTCCATGGTAGCTGGGATGTTAGGGC
 K  V  K  K  D  K  K  E  E  K  E  G  K  H  E  P  V  Q  P  S
                           |51                           |61

       .    .    .    .    .    .    .    .    .    .    .
TCAGgtaagtaaccttcctttttttttttttagtatatgtcctggtttggccatctgttt
 A


   .    .    .    .    .    .    .    .    .    .    .    .
ttttttttttaaaaaaaaaaaaaaaaggaaaagaggaaaaaaatatactactcttggac
```

```
   .    .    .    .    .    .    .    .    .    .    .    .
agtataaaagtaccccaaagactaaagacataactgtgccaaactgtgccatataataaa

   .    .    .    .    .    .    .    .    .    .    .    .
aaaaagtcacttccctgagccctgaaaggtcagtgtgtgtagggttacttggtcgccaca

   .    .    .    .    .    .    .    .    .    .    .    .
gcgtgatctgggggcgggcgtcagattagagccggaactggtgatctgcaacttcagttc

   .
acct
```

Exon 3 | Start: 109570 | End: 109921 | Length: 351

```
.    .    .    .    .    .    .    .    .    .    .    .
agccgcagtgtttccgctcagaggaaagggctctgattctcctgcagtgctaggagactt

.    .    .    .    .    .    .    .    .    .    .    .
gtgggtggccacagtgcaggtcaggcacaccggccagcaccacccacagcccaaattcct

.    .    .    .    .    .    .    .    .    .    .    .
aaagaaatatttgggtcccagcttggcccgagtctctgttgtcctggggaaggacatcaa

.    .    .    .    .    .    .    .    .    .    .    .
gatctgagtgtatgatggcctggggccttgcatgtggtgggggtccaagcctgcctctgc

.    .    .    .    .    .    .    .    .    .    .    .
tcacttgttctgcagactggcatgttctctgtgatacttacatacttgtttaacacttca

    |191      |201      |211      |221      |231      |241
GGAAGAAAAGTCAGAAGACCAGGACCTCCAGGGCCTCAAGGACAAACCCCTCAAGTTTAA
H  H  S  A  E  P  A  E  A  G  K  A  E  T  S  E  G  S  G  S
                       |71                           |81

    |251      |261      |271      |281      |291      |301
AAAGGTGAAGAAAGATAAGAAAGAAGAGAAAGAGGGCAAGCATGAGCCCGTGCAGCCATC
A  P  A  V  P  E  A  S  A  S  P  K  Q  R  R  S  I  I  R  D
                       |91                           |101

    |311      |321      |331      |341      |351      |361
AGCCCACCACTCTGCTGAGCCCGCAGAGGCAGGCAAAGCAGAGACATCAGAAGGGTCAGG
R  G  P  M  Y  D  D  P  T  L  P  E  G  W  T  R  K  L  K  Q
                       |111                          |121
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    |371       |381       |391       |401       |411       |421
CTCCGCCCCGGCTGTGCCGGAAGCTTCTGCCTCCCCCAAACAGCGGCGCTCCATCATCCG
R  K  S  G  R  S  A  G  K  Y  D  V  Y  L  I  N  P  Q  G  K
                        |131                        |141

    |431       |441       |451       |461       |471       |481
TGACCGGGGACCCATGTATGATGACCCCACCCTGCCTGAAGGCTGGACACGGAAGCTTAA
A  F  R  S  K  V  E  L  I  A  Y  F  E  K  V  G  D  T  S  L
                        |151                        |161

    |491       |501       |511       |521       |531       .
GCAAAGGAAATCTGGCCGCTCTGCTGGGAAGTATGATGTGTATTTGATCAAgtaagtaag
D  P  N  D  F  D  F  T  V  T  G  R  G  S  P  S  R
                        |171

.    .    .    .    .    .    .    .    .    .    .    .
agcaactcctatctctacagggcagggagggcagggacaaggatccctcatggagcagga

.    .    .    .    .    .    .    .    .    .    .    .
aaatgtatgtgcccagggtggggtcgggggggaacataaacaatgaacactgagaccaggt

.    .    .    .    .    .    .    .    .    .    .    .
gtgcttgaaatgaccgtgtacagaggtcgctgccctgagtgggaagttctcaaggtagca

.    .    .    .    .    .    .    .    .    .    .    .
ggccctctatcctctccacacctcaagtctttatctggggatggaatagctgcggaagca

.    .    .    .    .    .    .    .    .    .    .
gaggaacttgcagagctaggggttcagaggggtgaagaagcatgtttcagt
```

Exon 4 | Start: 110677 | End: 120315 | Length: 9638

```
.    .    .    .    .    .    .    .    .    .    .    .
tgttctagatggtgactcaggcccaggcaccaaccagcagaatgggcctcagcctgacaa

.    .    .    .    .    .    .    .    .    .    .    .
cccttctgtaccaggcctgactctttggttgctgaactttggagaggcctgggggggtca

.    .    .    .    .    .    .    .    .    .    .    .
gcggcaggcagacgagtgagtggctttggtgacaggtcctcaggggcagccaggcagtgt

.    .    .    .    .    .    .    .    .    .    .    .
gactctcgttcaatagtaacgtttgtcagagcgttgtcaccaccatccgctctgccctat
```

```
.    .    .    .    .    .    .    .    .    .    .    .
ctctgacattgctatggagagcctctaattgttccttgtgtctttctgtttgtccccaca

   |541      |551      |561      |571      |581      |591
TCCCCAGGGAAAAGCCTTTCGCTCTAAAGTGGAGTTGATTGCGTACTTCGAAAAGGTAGG
R  E  Q  K  P  P  K  K  P  K  S  P  K  A  P  G  T  G  R  G
   |181                        |191

   |601      |611      |621      |631      |641      |651
CGACACATCCCTGGACCCTAATGATTTTGACTTCACGGTAACTGGGAGAGGGAGCCCCTC
R  G  R  P  K  G  S  G  T  T  R  P  K  A  A  T  S  E  G  V
   |201                        |211

   |661      |671      |681      |691      |701      |711
CCGGCGAGAGCAGAAACCACCTAAGAAGCCCAAATCTCCCAAAGCTCCAGGAACTGGCAG
Q  V  K  R  V  L  E  K  S  P  G  K  L  L  V  K  M  P  F  Q
   |221                        |231

   |721      |731      |741      |751      |761      |771
AGGCCGGGGACGCCCCAAAGGGAGCGGCACCACGAGACCCAAGGCGGCCACGTCAGAGGG
T  S  P  G  G  K  A  E  G  G  G  A  T  T  S  T  Q  V  M  V
   |241                        |251

   |781      |791      |801      |811      |821      |831
TGTGCAGGTGAAAAGGGTCCTGGAGAAAAGTCCTGGGAAGCTCCTTGTCAAGATGCCTTT
I  K  R  P  G  R  K  R  K  A  E  A  D  P  Q  A  I  P  K  K
   |261                        |271

   |841      |851      |861      |871      |881      |891
TCAAACTTCGCCAGGGGGCAAGGCTGAGGGGGGTGGGGCCACCACATCCACCCAGGTCAT
R  G  R  K  P  G  S  V  V  A  A  A  A  A  E  A  K  K  K  A
   |281                        |291

   |901      |911      |921      |931      |941      |951
GGTGATCAAACGCCCCGGCAGGAAGCGAAAAGCTGAGGCCGACCCTCAGGCCATTCCCAA
V  K  E  S  S  I  R  S  V  Q  E  T  V  L  P  I  K  K  R  K
   |301                        |311

   |961      |971      |981      |991      |1001     |1011
GAAACGGGGCCGAAAGCCGGGGAGTGTGGTGGCAGCCGCTGCCGCCGAGGCCAAAAAGAA
T  R  E  T  V  S  I  E  V  K  E  V  V  K  P  L  L  V  S  T
   |321                        |331

   |1021     |1031     |1041     |1051     |1061     |1071
AGCCGTGAAGGAGTCTTCTATCCGATCTGTGCAGGAGACCGTACTCCCCATCAAGAAGCG
```

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L  G  E  K  S  G  K  G  L  K  T  C  K  S  P  G  R  K  S  K
   |341                        |351

   |1081     |1091     |1101     |1111     |1121     |1131
CAAGACCCGGGAGACGGTCAGCATCGAGGTCAAGGAAGTGGTGAAGCCCCTGCTGGTGTC
E  S  S  P  K  G  R  S  S  S  A  S  S  P  P  K  K  E  H  H
   |361                        |371

   |1141     |1151     |1161     |1171     |1181     |1191
CACCCTCGGTGAGAAGAGCGGGAAAGGACTGAAGACCTGTAAGAGCCCTGGGCGGAAAAG
H  H  H  H  H  S  E  S  P  K  A  P  V  P  L  L  P  P  L  P
   |381                        |391

   |1201     |1211     |1221     |1231     |1241     |1251
CAAGGAGAGCAGCCCCAAGGGGCGCAGCAGCAGCGCCTCCTCACCCCCCAAGAAGGAGCA
P  P  P  P  E  P  E  S  S  E  D  P  T  S  P  P  E  P  Q  D
   |401                        |411

   |1261     |1271     |1281     |1291     |1301     |1311
CCACCACCATCACCACCACTCAGAGTCCCCAAAGGCCCCCGTGCCACTGCTCCCACCCCT
L  S  S  S  V  C  K  E  E  K  M  P  R  G  G  S  L  E  S  D
   |421                        |431

   |1321     |1331     |1341     |1351     |1361     |1371
GCCCCCACCTCCACCTGAGCCCGAGAGCTCCGAGGACCCCACCAGCCCCCCTGAGCCCCA
G  C  P  K  E  P  A  K  T  Q  P  A  V  A  T  A  A  T  A  A
   |441                        |451

   |1381     |1391     |1401     |1411     |1421     |1431
GGACTTGAGCAGCAGCGTCTGCAAAGAGGAGAAGATGCCCAGAGGAGGCTCACTGGAGAG
E  K  Y  K  H  R  G  E  G  E  R  K  D  I  V  S  S  S  M  P
   |461                        |471

   |1441     |1451     |1461     |1471     |1481     |1491
CGACGGCTGCCCCAAGGAGCCAGCTAAGACTCAGCCCGCGGTTGCCACCGCCGCCACGGC
R  P  N  R  E  E  P  V  D  S  R  T  P  V  T  E  R  V  S  *
   |481                        |491

|*1       |*11      |*21      |*31      |*41      |*51
CGCAGAAAAGTACAAACACCGAGGGGAGGGAGAGCGCAAAGACATTGTTTCATCCTCCAT



|*61      |*71      |*81      |*91      |*101     |*111
GCCAAGGCCAAACAGAGAGGAGCCTGTGGACAGCCGGACGCCCGTGACCGAGAGAGTTAG
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|*121      |*131      |*141      |*151      |*161      |*171
CTGACTTTACACGGAGCGGATTGCAAAGCAAACCAACAAGAATAAAGGCAGCTGTTGTCT

|*181      |*191      |*201      |*211      |*221      |*231
CTTCTCCTTATGGGTAGGGCTCTGACAAAGCTTCCCGATTAACTGAAATAAAAAATATTT

|*241      |*251      |*261      |*271      |*281      |*291
TTTTTTCTTTCAGTAAACTTAGAGTTTCGTGGCTTCAGGGTGGGAGTAGTTGGAGCATTG

|*301      |*311      |*321      |*331      |*341      |*351
GGGATGTTTTTCTTACCGACAAGCACAGTCAGGTTGAAGACCTAACCAGGGCCAGAAGTA

|*361      |*371      |*381      |*391      |*401      |*411
GCTTTGCACTTTTCTAAACTAGGCTCCTTCAACAAGGCTTGCTGCAGATACTACTGACCA

|*421      |*431      |*441      |*451      |*461      |*471
GACAAGCTGTTGACCAGGCACCTCCCCTCCCGCCCAAACCTTTCCCCCATGTGGTCGTTA

|*481      |*491      |*501      |*511      |*521      |*531
GAGACAGAGCGACAGAGCAGTTGAGAGGACACTCCCGTTTTCGGTGCCATCAGTGCCCCG

|*541      |*551      |*561      |*571      |*581      |*591
TCTACAGCTCCCCCAGCTCCCCCCACCTCCCCCACTCCCAACCACGTTGGGACAGGGAGG

|*601      |*611      |*621      |*631      |*641      |*651
TGTGAGGCAGGAGAGACAGTTGGATTCTTTAGAGAAGATGGATATGACCAGTGGCTATGG

|*661      |*671      |*681      |*691      |*701      |*711
CCTGTGCGATCCCACCCGTGGTGGCTCAAGTCTGGCCCCACACCAGCCCCAATCCAAAAC

|*721      |*731      |*741      |*751      |*761      |*771
TGGCAAGGACGCTTCACAGGACAGGAAAGTGGCACCTGTCTGCTCCAGCTCTGGCATGGC

|*781      |*791      |*801      |*811      |*821      |*831
TAGGAGGGGGGAGTCCCTTGAACTACTGGGTGTAGACTGGCCTGAACCACAGGAGAGGAT

|*841      |*851      |*861      |*871      |*881      |*891
GGCCCAGGGTGAGGTGGCATGGTCCATTCTCAAGGGACGTCCTCCAACGGGTGGCGCTAG

|*901      |*911      |*921      |*931      |*941      |*951
AGGCCATGGAGGCAGTAGGACAAGGTGCAGGCAGGCTGGCCTGGGGTCAGGCCGGGCAGA

|*961      |*971      |*981      |*991      |*1001     |*1011
GCACAGCGGGGTGAGAGGGATTCCTAATCACTCAGAGCAGTCTGTGACTTAGTGGACAGG

|*1021     |*1031     |*1041     |*1051     |*1061     |*1071
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GGAGGGGGCAAAGGGGGAGGAGAAGAAAATGTTCTTCCAGTTACTTTCCAATTCTCCTTT

|*1081     |*1091     |*1101     |*1111     |*1121     |*1131
AGGGACAGCTTAGAATTATTTGCACTATTGAGTCTTCATGTTCCCACTTCAAAACAAACA

|*1141     |*1151     |*1161     |*1171     |*1181     |*1191
GATGCTCTGAGAGCAAACTGGCTTGAATTGGTGACATTTAGTCCCTCAAGCCACCAGATG

|*1201     |*1211     |*1221     |*1231     |*1241     |*1251
TGACAGTGTTGAGAACTACCTGGATTTGTATATATACCTGCGCTTGTTTTAAAGTGGGCT

|*1261     |*1271     |*1281     |*1291     |*1301     |*1311
CAGCACATAGGGTTCCCACGAAGCTCCGAAACTCTAAGTGTTTGCTGCAATTTTATAAGG

|*1321     |*1331     |*1341     |*1351     |*1361     |*1371
ACTTCCTGATTGGTTTCTCTTCTCCCCTTCCATTTCTGCCTTTTGTTCATTTCATCCTTT

|*1381     |*1391     |*1401     |*1411     |*1421     |*1431
CACTTCTTTCCCTTCCTCCGTCCTCCTCCTTCCTAGTTCATCCCTTCTCTTCCAGGCAGC

|*1441     |*1451     |*1461     |*1471     |*1481     |*1491
CGCGGTGCCCAACCACACTTGTCGGCTCCAGTCCCCAGAACTCTGCCTGCCCTTTGTCCT

|*1501     |*1511     |*1521     |*1531     |*1541     |*1551
CCTGCTGCCAGTACCAGCCCCACCCTGTTTTGAGCCCTGAGGAGGCCTTGGGCTCTGCTG

|*1561     |*1571     |*1581     |*1591     |*1601     |*1611
AGTCCGACCTGGCCTGTCTGTGAAGAGCAAGAGAGCAGCAAGGTCTTGCTCTCCTAGGTA

|*1621     |*1631     |*1641     |*1651     |*1661     |*1671
GCCCCCTCTTCCCTGGTAAGAAAAAGCAAAAGGCATTTCCCACCCTGAACAACGAGCCTT

|*1681     |*1691     |*1701     |*1711     |*1721     |*1731
TTCACCCTTCTACTCTAGAGAAGTGGACTGGAGGAGCTGGGCCCGATTTGGTAGTTGAGG

|*1741     |*1751     |*1761     |*1771     |*1781     |*1791
AAAGCACAGAGGCCTCCTGTGGCCTGCCAGTCATCGAGTGGCCCAACAGGGGCTCCATGC

|*1801     |*1811     |*1821     |*1831     |*1841     |*1851
CAGCCGACCTTGACCTCACTCAGAAGTCCAGAGTCTAGCGTAGTGCAGCAGGGCAGTAGC

|*1861     |*1871     |*1881     |*1891     |*1901     |*1911
GGTACCAATGCAGAACTCCCAAGACCCGAGCTGGGACCAGTACCTGGGTCCCCAGCCCTT

|*1921     |*1931     |*1941     |*1951     |*1961     |*1971
CCTCTGCTCCCCCTTTTCCCTCGGAGTTCTTCTTGAATGGCAATGTTTTGCTTTTGCTCG
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|*1981     |*1991     |*2001     |*2011     |*2021     |*2031
ATGCAGACAGGGGGCCAGAACACCACACATTTCACTGTCTGTCTGGTCCATAGCTGTGGT

|*2041     |*2051     |*2061     |*2071     |*2081     |*2091
GTAGGGGCTTAGAGGCATGGGCTTGCTGTGGGTTTTTAATTGATCAGTTTTCATGTGGGA

|*2101     |*2111     |*2121     |*2131     |*2141     |*2151
TCCCATCTTTTTAACCTCTGTTCAGGAAGTCCTTATCTAGCTGCATATCTTCATCATATT

|*2161     |*2171     |*2181     |*2191     |*2201     |*2211
GGTATATCCTTTTCTGTGTTTACAGAGATGTCTCTTATATCTAAATCTGTCCAACTGAGA

|*2221     |*2231     |*2241     |*2251     |*2261     |*2271
AGTACCTTATCAAAGTAGCAAATGAGACAGCAGTCTTATGCTTCCAGAAACACCCACAGG

|*2281     |*2291     |*2301     |*2311     |*2321     |*2331
CATGTCCCATGTGAGCTGCTGCCATGAACTGTCAAGTGTGTGTTGTCTTGTGTATTTCAG

|*2341     |*2351     |*2361     |*2371     |*2381     |*2391
TTATTGTCCCTGGCTTCCTTACTATGGTGTAATCATGAAGGAGTGAAACATCATAGAAAC

|*2401     |*2411     |*2421     |*2431     |*2441     |*2451
TGTCTAGCACTTCCTTGCCAGTCTTTAGTGATCAGGAACCATAGTTGACAGTTCCAATCA

|*2461     |*2471     |*2481     |*2491     |*2501     |*2511
GTAGCTTAAGAAAAAACCGTGTTTGTCTCTTCTGGAATGGTTAGAAGTGAGGGAGTTTGC

|*2521     |*2531     |*2541     |*2551     |*2561     |*2571
CCCGTTCTGTTTGTAGAGTCTCATAGTTGGACTTTCTAGCATATATGTGTCCATTTCCTT

|*2581     |*2591     |*2601     |*2611     |*2621     |*2631
ATGCTGTAAAAGCAAGTCCTGCAACCAAACTCCCATCAGCCCAATCCCTGATCCCTGATC

|*2641     |*2651     |*2661     |*2671     |*2681     |*2691
CCTTCCACCTGCTCTGCTGATGACCCCCCCCAGCTTCACTTCTGACTCTTCCCCAGGAAGG

|*2701     |*2711     |*2721     |*2731     |*2741     |*2751
GAAGGGGGGTCAGAAGAGAGGGTGAGTCCTCCAGAACTCTTCCTCCAAGGACAGAAGGCT

|*2761     |*2771     |*2781     |*2791     |*2801     |*2811
CCTGCCCCCATAGTGGCCTCGAACTCCTGGCACTACCAAAGGACACTTATCCACGAGAGC

|*2821     |*2831     |*2841     |*2851     |*2861     |*2871
GCAGCATCCGACCAGGTTGTCACTGAGAAGATGTTTATTTTGGTCAGTTGGGTTTTTATG
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|*2881     |*2891     |*2901     |*2911     |*2921     |*2931
TATTATACTTAGTCAAATGTAATGTGGCTTCTGGAATCATTGTCCAGAGCTGCTTCCCCG

|*2941     |*2951     |*2961     |*2971     |*2981     |*2991
TCACCTGGGCGTCATCTGGTCCTGGTAAGAGGAGTGCGTGGCCCACCAGGCCCCCCTGTC

|*3001     |*3011     |*3021     |*3031     |*3041     |*3051
ACCCATGACAGTTCATTCAGGGCCGATGGGGCAGTCGTGGTTGGGAACACAGCATTTCAA

|*3061     |*3071     |*3081     |*3091     |*3101     |*3111
GCGTCACTTTATTTCATTCGGGCCCCACCTGCAGCTCCCTCAAAGAGGCAGTTGCCCAGC

|*3121     |*3131     |*3141     |*3151     |*3161     |*3171
CTCTTTCCCTTCCAGTTTATTCCAGAGCTGCCAGTGGGGCCTGAGGCTCCTTAGGGTTTT

|*3181     |*3191     |*3201     |*3211     |*3221     |*3231
CTCTCTATTTCCCCCTTTCTTCCTCATTCCCTCGTCTTTCCCAAAGGCATCACGAGTCAG

|*3241     |*3251     |*3261     |*3271     |*3281     |*3291
TCGCCTTTCAGCAGGCAGCCTTGGCGGTTTATCGCCCTGGCAGGCAGGGGCCCTGCAGCT

|*3301     |*3311     |*3321     |*3331     |*3341     |*3351
CTCATGCTGCCCCTGCCTTGGGGTCAGGTTGACAGGAGGTTGGAGGGAAAGCCTTAAGCT

|*3361     |*3371     |*3381     |*3391     |*3401     |*3411
GCAGGATTCTCACCAGCTGTGTCCGGCCCAGTTTTGGGGTGTGACCTCAATTTCAATTTT

|*3421     |*3431     |*3441     |*3451     |*3461     |*3471
GTCTGTACTTGAACATTATGAAGATGGGGGCCTCTTTCAGTGAATTTGTGAACAGCAGAA

|*3481     |*3491     |*3501     |*3511     |*3521     |*3531
TTGACCGACAGCTTTCCAGTACCCATGGGGCTAGGTCATTAAGGCCACATCCACAGTCTC

|*3541     |*3551     |*3561     |*3571     |*3581     |*3591
CCCCACCCTTGTTCCAGTTGTTAGTTACTACCTCCTCTCCTGACAATACTGTATGTCGTC

|*3601     |*3611     |*3621     |*3631     |*3641     |*3651
GAGCTCCCCCCAGGTCTACCCCTCCCGGCCCTGCCTGCTGGTGGGCTTGTCATAGCCAGT

|*3661     |*3671     |*3681     |*3691     |*3701     |*3711
GGGATTGCCGGTCTTGACAGCTCAGTGAGCTGGAGATACTTGGTCACAGCCAGGCGCTAG

|*3721     |*3731     |*3741     |*3751     |*3761     |*3771
CACAGCTCCCTTCTGTTGATGCTGTATTCCCATATCAAAAGACACAGGGGACACCCAGAA

|*3781     |*3791     |*3801     |*3811     |*3821     |*3831
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ACGCCACATCCCCCAATCCATCAGTGCCAAACTAGCCAACGGCCCCAGCTTCTCAGCTCG

|*3841     |*3851     |*3861     |*3871     |*3881     |*3891
CTGGATGGCGGAAGCTGCTACTCGTGAGCGCCAGTGCGGGTGCAGACAATCTTCTGTTGG

|*3901     |*3911     |*3921     |*3931     |*3941     |*3951
GTGGCATCATTCCAGGCCCGAAGCATGAACAGTGCACCTGGGACAGGGAGCAGCCCCAAA

|*3961     |*3971     |*3981     |*3991     |*4001     |*4011
TTGTCACCTGCTTCTCTGCCCAGCTTTTCATTGCTGTGACAGTGATGGCGAAAGAGGGTA

|*4021     |*4031     |*4041     |*4051     |*4061     |*4071
ATAACCAGACACAAACTGCCAAGTTGGGTGGAGAAAGGAGTTTCTTTAGCTGACAGAATC

|*4081     |*4091     |*4101     |*4111     |*4121     |*4131
TCTGAATTTTAAATCACTTAGTAAGCGGCTCAAGCCCAGGAGGGAGCAGAGGGATACGAG

|*4141     |*4151     |*4161     |*4171     |*4181     |*4191
CGGAGTCCCCTGCGCGGGACCATCTGGAATTGGTTTAGCCCAAGTGGAGCCTGACAGCCA

|*4201     |*4211     |*4221     |*4231     |*4241     |*4251
GAACTCTGTGTCCCCCGTCTAACCACAGCTCCTTTTCCAGAGCATTCCAGTCAGGCTCTC

|*4261     |*4271     |*4281     |*4291     |*4301     |*4311
TGGGCTGACTGGGCCAGGGGAGGTTACAGGTACCAGTTCTTTAAGAAGATCTTTGGGCAT

|*4321     |*4331     |*4341     |*4351     |*4361     |*4371
ATACATTTTTAGCCTGTGTCATTGCCCCAAATGGATTCCTGTTTCAAGTTCACACCTGCA

|*4381     |*4391     |*4401     |*4411     |*4421     |*4431
GATTCTAGGACCTGTGTCCTAGACTTCAGGGAGTCAGCTGTTTCTAGAGTTCCTACCATG

|*4441     |*4451     |*4461     |*4471     |*4481     |*4491
GAGTGGGTCTGGAGGACCTGCCCGGTGGGGGGGCAGAGCCCTGCTCCCTCCGGGTCTTCC

|*4501     |*4511     |*4521     |*4531     |*4541     |*4551
TACTCTTCTCTCTGCTCTGACGGGATTTGTTGATTCTCTCCATTTTGGTGTCTTTCTCTT

|*4561     |*4571     |*4581     |*4591     |*4601     |*4611
TTAGATATTGTATCAATCTTTAGAAAAGGCATAGTCTACTTGTTATAAATCGTTAGGATA

|*4621     |*4631     |*4641     |*4651     |*4661     |*4671
CTGCCTCCCCCAGGGTCTAAAATTACATATTAGAGGGGAAAAGCTGAACACTGAAGTCAG

|*4681     |*4691     |*4701     |*4711     |*4721     |*4731
TTCTCAACAATTTAGAAGGAAAACCTAGAAAACATTTGGCAGAAAATTACATTTCGATGT
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|*4741     |*4751     |*4761     |*4771     |*4781     |*4791
TTTTGAATGAATACGAGCAAGCTTTTACAACAGTGCTGATCTAAAAATACTTAGCACTTG

|*4801     |*4811     |*4821     |*4831     |*4841     |*4851
GCCTGAGATGCCTGGTGAGCATTACAGGCAAGGGGAATCTGGAGGTAGCCGACCTGAGGA

|*4861     |*4871     |*4881     |*4891     |*4901     |*4911
CATGGCTTCTGAACCTGTCTTTTGGGAGTGGTATGGAAGGTGGAGCGTTCACCAGTGACC

|*4921     |*4931     |*4941     |*4951     |*4961     |*4971
TGGAAGGCCCAGCACCACCCTCCTTCCCACTCTTCTCATCTTGACAGAGCCTGCCCCAGC

|*4981     |*4991     |*5001     |*5011     |*5021     |*5031
GCTGACGTGTCAGGAAAACACCCAGGGAACTAGGAAGGCACTTCTGCCTGAGGGGCAGCC

|*5041     |*5051     |*5061     |*5071     |*5081     |*5091
TGCCTTGCCCACTCCTGCTCTGCTCGCCTCGGATCAGCTGAGCCTTCTGAGCTGGCCTCT

|*5101     |*5111     |*5121     |*5131     |*5141     |*5151
CACTGCCTCCCCAAGGCCCCCTGCCTGCCCTGTCAGGAGGCAGAAGGAAGCAGGTGTGAG

|*5161     |*5171     |*5181     |*5191     |*5201     |*5211
GGCAGTGCAAGGAGGGAGCACAACCCCCAGCTCCCGCTCCGGGCTCCGACTTGTGCACAG

|*5221     |*5231     |*5241     |*5251     |*5261     |*5271
GCAGAGCCCAGACCCTGGAGGAAATCCTACCTTTGAATTCAAGAACATTTGGGGAATTTG

|*5281     |*5291     |*5301     |*5311     |*5321     |*5331
GAAATCTCTTTGCCCCCAAACCCCCATTCTGTCCTACCTTTAATCAGGTCCTGCTCAGCA

|*5341     |*5351     |*5361     |*5371     |*5381     |*5391
GTGAGAGCAGATGAGGTGAAAAGGCCAAGAGGTTTGGCTCCTGCCCACTGATAGCCCCTC

|*5401     |*5411     |*5421     |*5431     |*5441     |*5451
TCCCCGCAGTGTTTGTGTGTCAAGTGGCAAAGCTGTTCTTCCTGGTGACCCTGATTATAT

|*5461     |*5471     |*5481     |*5491     |*5501     |*5511
CCAGTAACACATAGACTGTGCGCATAGGCCTGCTTTGTCTCCTCTATCCTGGGCTTTTGT

|*5521     |*5531     |*5541     |*5551     |*5561     |*5571
TTTGCTTTTTAGTTTTGCTTTTAGTTTTTCTGTCCCTTTTATTTAACGCACCGACTAGAC

|*5581     |*5591     |*5601     |*5611     |*5621     |*5631
ACACAAAGCAGTTGAATTTTTATATATATATCTGTATATTGCACAATTATAAACTCATTT
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|*5641     |*5651     |*5661     |*5671     |*5681     |*5691
TGCTTGTGGCTCCACACACACAAAAAAAGACCTGTTAAAATTATACCTGTTGCTTAATTA

|*5701     |*5711     |*5721     |*5731     |*5741     |*5751
CAATATTTCTGATAACCATAGCATAGGACAAGGGAAAATAAAAAAAGAAAAAAAAGAAAA

|*5761     |*5771     |*5781     |*5791     |*5801     |*5811
AAAAACGACAAATCTGTCTGCTGGTCACTTCTTCTGTCCAAGCAGATTCGTGGTCTTTTC

|*5821     |*5831     |*5841     |*5851     |*5861     |*5871
CTCGCTTCTTTCAAGGGCTTTCCTGTGCCAGGTGAAGGAGGCTCCAGGCAGCACCCAGGT

|*5881     |*5891     |*5901     |*5911     |*5921     |*5931
TTTGCACTCTTGTTTCTCCCGTGCTTGTGAAAGAGGTCCCAAGGTTCTGGGTGCAGGAGC

|*5941     |*5951     |*5961     |*5971     |*5981     |*5991
GCTCCCTTGACCTGCTGAAGTCCGGAACGTAGTCGGCACAGCCTGGTCGCCTTCCACCTC

|*6001     |*6011     |*6021     |*6031     |*6041     |*6051
TGGGAGCTGGAGTCCACTGGGGTGGCCTGACTCCCCCAGTCCCCTTCCCGTGACCTGGTC

|*6061     |*6071     |*6081     |*6091     |*6101     |*6111
AGGGTGAGCCCATGTGGAGTCAGCCTCGCAGGCCTCCCTGCCAGTAGGGTCCGAGTGTGT

|*6121     |*6131     |*6141     |*6151     |*6161     |*6171
TTCATCCTTCCCACTCTGTCGAGCCTGGGGGCTGGAGCGGAGACGGGAGGCCTGGCCTGT

|*6181     |*6191     |*6201     |*6211     |*6221     |*6231
CTCGGAACCTGTGAGCTGCACCAGGTAGAACGCCAGGGACCCCAGAATCATGTGCGTCAG

|*6241     |*6251     |*6261     |*6271     |*6281     |*6291
TCCAAGGGGTCCCCTCCAGGAGTAGTGAAGACTCCAGAAATGTCCCTTTCTTCTCCCCCA

|*6301     |*6311     |*6321     |*6331     |*6341     |*6351
TCCTACGAGTAATTGCATTTGCTTTTGTAATTCTTAATGAGCAATATCTGCTAGAGAGTT

|*6361     |*6371     |*6381     |*6391     |*6401     |*6411
TAGCTGTAACAGTTCTTTTTGATCATCTTTTTTTAATAATTAGAAACACCAAAAAAATCC

|*6421     |*6431     |*6441     |*6451     |*6461     |*6471
AGAAACTTGTTCTTCCAAAGCAGAGAGCATTATAATCACCAGGGCCAAAAGCTTCCCTCC

|*6481     |*6491     |*6501     |*6511     |*6521     |*6531
CTGCTGTCATTGCTTCTTCTGAGGCCTGAATCCAAAAGAAAAACAGCCATAGGCCCTTTC

|*6541     |*6551     |*6561     |*6571     |*6581     |*6591
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|*6601     |*6611     |*6621     |*6631     |*6641     |*6651
CATCCGGGGCCAGCTCCGGCGTGTGTTCAGTGTTAGCAGTGGGTCATGATGCTCTTTCCC

|*6661     |*6671     |*6681     |*6691     |*6701     |*6711
ACCCAGCCTGGGATAGGGGCAGAGGAGGCGAGGAGGCCGTTGCCGCTGATGTTTGGCCGT

|*6721     |*6731     |*6741     |*6751     |*6761     |*6771
GAACAGGTGGGTGTCTGCGTGCGTCCACGTGCGTGTTTTCTGACTGACATGAAATCGACG

|*6781     |*6791     |*6801     |*6811     |*6821     |*6831
CCCGAGTTAGCCTCACCCGGTGACCTCTAGCCCTGCCCGGATGGAGCGGGGCCCACCCGG

|*6841     |*6851     |*6861     |*6871     |*6881     |*6891
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|*6901     |*6911     |*6921     |*6931     |*6941     |*6951
CTCCTTCCCTTGCTACCACGGCCTCCTTTCCGTTTGATTTGTCACTGCTTCAATCAATAA

|*6961     |*6971     |*6981     |*6991     |*7001     |*7011
CAGCCGCTCCAGAGTCAGTAGTCAATGAATATATGACCAAATATCACCAGGACTGTTACT

|*7021     |*7031     |*7041     |*7051     |*7061     |*7071
CAATGTGTGCCGAGCCCTTGCCCATGCTGGGCTCCCGTGTATCTGGACACTGTAACGTGT

|*7081     |*7091     |*7101     |*7111     |*7121     |*7131
GCTGTGTTTGCTCCCCTTCCCCTTCCTTCTTTGCCCTTTACTTGTCTTTCTGGGGTTTTT

|*7141     |*7151     |*7161     |*7171     |*7181     |*7191
CTGTTTGGGTTTGGTTTGGTTTTTATTTCTCCTTTTGTGTTCCAAACATGAGGTTCTCTC

|*7201     |*7211     |*7221     |*7231     |*7241     |*7251
TACTGGTCCTCTTAACTGTGGTGTTGAGGCTTATATTTGTGTAATTTTTGGTGGGTGAAA

|*7261     |*7271     |*7281     |*7291     |*7301     |*7311
GGAATTTTGCTAAGTAAATCTCTTCTGTGTTTGAACTGAAGTCTGTATTGTAACTATGTT

|*7321     |*7331     |*7341     |*7351     |*7361     |*7371
TAAAGTAATTGTTCCAGAGACAAATATTTCTAGACACTTTTTCTTTACAAACAAAAGCAT

|*7381     |*7391     |*7401     |*7411     |*7421     |*7431
TCGGAGGGAGGGGGATGGTGACTGAGATGAGAGGGGAGAGCTGAACAGATGACCCCTGCC

|*7441     |*7451     |*7461     |*7471     |*7481     |*7491
CAGATCAGCCAGAAGCCACCCAAAGCAGTGGAGCCCAGGAGTCCCACTCCAAGCCAGCAA
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|*7501     |*7511     |*7521     |*7531     |*7541     |*7551
GCCGAATAGCTGATGTGTTGCCACTTTCCAAGTCACTGCAAAACCAGGTTTTGTTCCGCC

|*7561     |*7571     |*7581     |*7591     |*7601     |*7611
CAGTGGATTCTTGTTTTGCTTCCCCTCCCCCCGAGATTATTACCACCATCCCGTGCTTTT

|*7621     |*7631     |*7641     |*7651     |*7661     |*7671
AAGGAAAGGCAAGATTGATGTTTCCTTGAGGGGAGCCAGGAGGGGATGTGTGTGTGCAGA

|*7681     |*7691     |*7701     |*7711     |*7721     |*7731
GCTGAAGAGCTGGGGAGAATGGGGCTGGGCCCACCCAAGCAGGAGGCTGGGACGCTCTGC

|*7741     |*7751     |*7761     |*7771     |*7781     |*7791
TGTGGGCACAGGTCAGGCTAATGTTGGCAGATGCAGCTCTTCCTGGACAGGCCAGGTGGT

|*7801     |*7811     |*7821     |*7831     |*7841     |*7851
GGGCATTCTCTCTCCAAGGTGTGCCCCGTGGGCATTACTGTTTAAGACACTTCCGTCACA

|*7861     |*7871     |*7881     |*7891     |*7901     |*7911
TCCCACCCCATCCTCCAGGGCTCAACACTGTGACATCTCTATTCCCCACCCTCCCCTTCC

|*7921     |*7931     |*7941     |*7951     |*7961     |*7971
CAGGGCAATAAAATGACCATGGAGGGGGCTTGCACTCTCTTGGCTGTCACCCGATCGCCA

|*7981     |*7991     |*8001     |*8011     |*8021     |*8031
GCAAAACTTAGATGTGAGAAAACCCCTTCCCATTCCATGGCGAAAACATCTCCTTAGAAA

|*8041     |*8051     |*8061     |*8071     |*8081     |*8091
AGCCATTACCCTCATTAGGCATGGTTTTGGGCTCCCAAAACACCTGACAGCCCCTCCCTC

|*8101     |*8111     |*8121     |*8131     |*8141     |*8151
CTCTGAGAGGCGGAGAGTGCTGACTGTAGTGACCATTGCATGCCGGGTGCAGCATCTGGA

|*8161     |*8171     |*8181     |*8191     |*8201     |*8211
AGAGCTAGGCAGGGTGTCTGCCCCCTCCTGAGTTGAAGTCATGCTCCCCTGTGCCAGCCC

|*8221     |*8231     |*8241     |*8251     |*8261     |*8271
AGAGGCCGAGAGCTATGGACAGCATTGCCAGTAACACAGGCCACCCTGTGCAGAAGGGAG

|*8281     |*8291     |*8301     |*8311     |*8321     |*8331
CTGGCTCCAGCCTGGAAACCTGTCTGAGGTTGGGAGAGGTGCACTTGGGGCACAGGGAGA

|*8341     |*8351     |*8361     |*8371     |*8381     |*8391
GGCCGGGACACACTTAGCTGGAGATGTCTCTAAAAGCCCTGTATCGTATTCACCTTCAGT
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|*8401     |*8411     |*8421     |*8431     |*8441     |*8451
TTTTGTGTTTTGGGACAATTACTTTAGAAAATAAGTAGGTCGTTTTAAAAACAAAAATTA

|*8461     |*8471     |*8481     |*8491     |*8501     |*8511
TTGATTGCTTTTTTGTAGTGTTCAGAAAAAAGGTTCTTTGTGTATAGCCAAATGACTGAA

|*8521     |*8531     |*8541     |*8551     |*8561     |*8571
AGCACTGATATATTTAAAAACAAAAGGCAATTTATTAAGGAAATTTGTACCATTTCAGTA

|*8581     |*8591     |*8601     |*8611     |*8621     |*8631
AACCTGTCTGAATGTACCTGTATACGTTTCAAAAACACCCCCCCCCCACTGAATCCCTGT

|*8641     |*8651     |*8661     |*8671      .     .     .     .
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GBK Parser: Version: 1.1, Version Date: 11/02/2015
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Writer: Version: 1, Version Date: 11/02/2015
Control: Version: 1, Version Date: 11/02/2015
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