Gene: ABL1 - Sequence: NG_012034.1
Transcript: NM_007313.2 - Protein: NP_009297.2
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 MIDDLE base of codon
4^{th} line: Amino acid numbering. Numbered on 1^{st} and increments of 10

```
Exon 1 | Start: 5001 | End: 5575 | Length: 574

|-439      |-429      |-419      |-409      |-399      |-389
GGTTGGTGACTTCCACAGGAAAAGTTCTGGAGGAGTAGCCAAAGACCATCAGCGTTTCCT

|-379      |-369      |-359      |-349      |-339      |-329
TTATGTGTGAGAATTGAAATGACTAGCATTATTGACCCTTTTCAGCATCCCCTGTGAATA

|-319      |-309      |-299      |-289      |-279      |-269
TTTCTGTTTAGGTTTTTCTTCTTGAAAAGAAATTGTTATTCAGCCCGTTTAAAACAAATC

|-259      |-249      |-239      |-229      |-219      |-209
AAGAAACTTTTGGGTAACATTGCAATTACATGAAATTGATAACCGCGAAAATAATTGGAA

|-199      |-189      |-179      |-169      |-159      |-149
CTCCTGCTTGCAAGTGTCAACCTAAAAAAAAGTGCTTCCTTTTGTTATGGAAGATGTCTTT

|-139      |-129      |-119      |-109      |-99       |-89
CTGTGATTGACTTCAATTGCTGACTTGTGGAGATGCAGCGAATGTGAAATCCCACGTATA

|-79       |-69       |-59       |-49       |-39       |-29
TGCCATTTCCCTCTACGCTCGCTGACCGTTCTGGAAGATCTTGAACCCTCTTCTGGAAAG

|-19       |-9        |1         |11        |21        |31        |41
GGGTACCTATTATTACTTTATGGGGCAGCAGCCTGGAAAAGTACTTGGGGACCAAAGAAG
                   M   G   Q   Q   P   G   K   V   L   G   D   Q   R   R
                   |1                              |11

          |51        |61        |71        |81        |91        |101
GCCAAGCTTGCCTGCCCTGCATTTTATCAAAGGAGCAGGGAAGAAGGAATCATCGAGGCA
 P   S   L   P   A   L   H   F   I   K   G   A   G   K   K   E   S   S   R   H
                   |21                             |31

          |111       |121       |131
TGGGGGTCCACACTGCAATGTTTTTGTGGAACATG
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                    |41

Exon 3 | Start: 145184 | End: 145357 | Length: 173

    |141       |151       |161       |171       |181       |191
AAGCCCTTCAGCGGCCAGTAGCATCTGACTTTGAGCCTCAGGGTCTGAGTGAAGCCGCTC
  A  L  Q  R  P  V  A  S  D  F  E  P  Q  G  L  S  E  A  A  R
              |51                           |61

    |201       |211       |221       |231       |241       |251
GTTGGAACTCCAAGGAAAACCTTCTCGCTGGACCCAGTGAAAATGACCCCAACCTTTTCG
  W  N  S  K  E  N  L  L  A  G  P  S  E  N  D  P  N  L  F  V
              |71                           |81

    |261       |271       |281       |291       |301
TTGCACTGTATGATTTTGTGGCCAGTGGAGATAACACTCTAAGCATAACTAAAG
              |91                           |101


Exon 4 | Start: 145921 | End: 146216 | Length: 295

|311       |321       |331       |341       |351       |361
GTGAAAAGCTCCGGGTCTTAGGCTATAATCACAATGGGGAATGGTGTGAAGCCCAAACCA
  E  K  L  R  V  L  G  Y  N  H  N  G  E  W  C  E  A  Q  T  K
                    |111                          |121

|371       |381       |391       |401       |411       |421
AAAATGGCCAAGGCTGGGTCCCAAGCAACTACATCACGCCAGTCAACAGTCTGGAGAAAC
  N  G  Q  G  W  V  P  S  N  Y  I  T  P  V  N  S  L  E  K  H
                    |131                          |141

|431       |441       |451       |461       |471       |481
ACTCCTGGTACCATGGGCCTGTGTCCCGCAATGCCGCTGAGTATCTGCTGAGCAGCGGGA
  S  W  Y  H  G  P  V  S  R  N  A  A  E  Y  L  L  S  S  G  I
                    |151                          |161

|491       |501       |511       |521       |531       |541
TCAATGGCAGCTTCTTGGTGCGTGAGAGTGAGAGCAGTCCTGGCCAGAGGTCCATCTCGC
  N  G  S  F  L  V  R  E  S  E  S  S  P  G  Q  R  S  I  S  L
                    |171                          |181

|551       |561       |571       |581       |591       |601
TGAGATACGAAGGGAGGGTGTACCATTACAGGATCAACACTGCTTCTGATGGCAAG
                    |191                          |201
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Exon 5 | Start: 153883 | End: 154155 | Length: 272

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    |611       |621       |631       |641       |651       |661
CTCTACGTCTCCTCCGAGAGCCGCTTCAACACCCTGGCCGAGTTGGTTCATCATCATTCA
L  Y  V  S  S  E  S  R  F  N  T  L  A  E  L  V  H  H  H  S
                        |211                           |221

    |671       |681       |691       |701       |711       |721
ACGGTGGCCGACGGGCTCATCACCACGCTCCATTATCCAGCCCCAAAGCGCAACAAGCCC
T  V  A  D  G  L  I  T  T  L  H  Y  P  A  P  K  R  N  K  P
                        |231                           |241

    |731       |741       |751       |761       |771       |781
ACTGTCTATGGTGTGTCCCCCAACTACGACAAGTGGGAGATGGAACGCACGGACATCACC
T  V  Y  G  V  S  P  N  Y  D  K  W  E  M  E  R  T  D  I  T
                        |251                           |261

    |791       |801       |811       |821       |831       |841
ATGAAGCACAAGCTGGGCGGGGGCCAGTACGGGGAGGTGTACGAGGGCGTGTGGAAGAAA
M  K  H  K  L  G  G  G  Q  Y  G  E  V  Y  E  G  V  W  K  K
                        |271                           |281

    |851       |861       |871
TACAGCCTGACGGTGGCCGTGAAGACCTTGAAG
                        |291
```

Exon 6 | Start: 163249 | End: 163333 | Length: 84

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 |881       |891       |901       |911       |921       |931
GAGGACACCATGGAGGTGGAAGAGTTCTTGAAAGAAGCTGCAGTCATGAAAGAGATCAAA
E  D  T  M  E  V  E  E  F  L  K  E  A  A  V  M  K  E  I  K
                     |301                           |311

 |941       |951       |961
CACCCTAACCTGGTGCAGCTCCTTG
                     |321
```

Exon 7 | Start: 163980 | End: 164157 | Length: 177

```
      |971       |981       |991       |1001      |1011      |1021
GGGTCTGCACCCGGGAGCCCCCGTTCTATATCATCACTGAGTTCATGACCTACGGGAACC
  V  C  T  R  E  P  P  F  Y  I  I  T  E  F  M  T  Y  G  N  L
                        |331                           |341
```

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      |1031      |1041      |1051      |1061      |1071      |1081
TCCTGGACTACCTGAGGGAGTGCAACCGGCAGGAGGTGAACGCCGTGGTGCTGCTGTACA
  L  D  Y  L  R  E  C  N  R  Q  E  V  N  A  V  V  L  L  Y  M
                          |351                           |361

      |1091      |1101      |1111      |1121      |1131      |1141
TGGCCACTCAGATCTCGTCAGCCATGGAGTACCTGGAGAAGAAAAACTTCATCCACAG
                          |371                           |381
```

Exon 8 | Start: 165988 | End: 166172 | Length: 184

```
        |1151      |1161      |1171      |1181      |1191      |1201
AGATCTTGCTGCCCGAAACTGCCTGGTAGGGGAGAACCACTTGGTGAAGGTAGCTGATTT
 D  L  A  A  R  N  C  L  V  G  E  N  H  L  V  K  V  A  D  F
                           |391                           |401

        |1211      |1221      |1231      |1241      |1251      |1261
TGGCCTGAGCAGGTTGATGACAGGGGACACCTACACAGCCCATGCTGGAGCCAAGTTCCC
 G  L  S  R  L  M  T  G  D  T  Y  T  A  H  A  G  A  K  F  P
                           |411                           |421

        |1271      |1281      |1291      |1301      |1311      |1321
CATCAAATGGACTGCACCCGAGAGCCTGGCCTACAACAAGTTCTCCATCAAGTCCGACGT
 I  K  W  T  A  P  E  S  L  A  Y  N  K  F  S  I  K  S  D  V
                           |431                           |441
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CTGGG
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Exon 9 | Start: 169535 | End: 169687 | Length: 152

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   |1331      |1341      |1351      |1361      |1371      |1381
CATTTGGAGTATTGCTTTGGGAAATTGCTACCTATGGCATGTCCCCTTACCCGGGAATTG
  F  G  V  L  L  W  E  I  A  T  Y  G  M  S  P  Y  P  G  I  D
                       |451                           |461

   |1391      |1401      |1411      |1421      |1431      |1441
ACCTGTCCCAGGTGTATGAGCTGCTAGAGAAGGACTACCGCATGGAGCGCCCAGAAGGCT
  L  S  Q  V  Y  E  L  L  E  K  D  Y  R  M  E  R  P  E  G  C
                       |471                           |481

   |1451      |1461      |1471
```

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GCCCAGAGAAGGTCTATGAACTCATGCGAGCAT
                       |491
```

Exon 10 | Start: 171188 | End: 171277 | Length: 89

```
|1481     |1491     |1501     |1511     |1521     |1531
GTTGGCAGTGGAATCCCTCTGACCGGCCCTCCTTTGCTGAAATCCACCAAGCCTTTGAAA
  W  Q  W  N  P  S  D  R  P  S  F  A  E  I  H  Q  A  F  E  T
                    |501                          |511

|1541     |1551     |1561
CAATGTTCCAGGAATCCAGTATCTCAGACG
                    |521
```

Exon 11 | Start: 171620 | End: 171784 | Length: 164

```
|1571     |1581     |1591     |1601     |1611     |1621
AAGTGGAAAAGGAGCTGGGGAAACAAGGCGTCCGTGGGGCTGTGAGTACCTTGCTGCAGG
  V  E  K  E  L  G  K  Q  G  V  R  G  A  V  S  T  L  L  Q  A
                    |531                          |541

|1631     |1641     |1651     |1661     |1671     |1681
CCCCAGAGCTGCCCACCAAGACGAGGACCTCCAGGAGAGCTGCAGAGCACAGAGACACCA
  P  E  L  P  T  K  T  R  T  S  R  R  A  A  E  H  R  D  T  T
                    |551                          |561

|1691     |1701     |1711     |1721     |1731
CTGACGTGCCTGAGATGCCTCACTCCAAGGGCCAGGGAGAGAGCG
                    |571
```

Exon 12 | Start: 175089 | End: 178795 | Length: 3706

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    |1741     |1751     |1761     |1771     |1781     |1791
ATCCTCTGGACCATGAGCCTGCCGTGTCTCCATTGCTCCCTCGAAAAGAGCGAGGTCCCC
  P  L  D  H  E  P  A  V  S  P  L  L  P  R  K  E  R  G  P  P
    |581                          |591

    |1801     |1811     |1821     |1831     |1841     |1851
CGGAGGGCGGCCTGAATGAAGATGAGCGCCTTCTCCCCAAAGACAAAAAGACCAACTTGT
  E  G  G  L  N  E  D  E  R  L  L  P  K  D  K  K  T  N  L  F
    |601                          |611

    |1861     |1871     |1881     |1891     |1901     |1911
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TCAGCGCCTTGATCAAGAAGAAGAAGAAGACAGCCCCAACCCCTCCCAAACGCAGCAGCT
  S  A  L  I  K  K  K  K  K  T  A  P  T  P  P  K  R  S  S  S
     |621                        |631

     |1921     |1931     |1941     |1951     |1961     |1971
CCTTCCGGGAGATGGACGGCCAGCCGGAGCGCAGAGGGGCCGGCGAGGAAGAGGGCCGAG
  F  R  E  M  D  G  Q  P  E  R  R  G  A  G  E  E  E  G  R  D
     |641                        |651

     |1981     |1991     |2001     |2011     |2021     |2031
ACATCAGCAACGGGGCACTGGCTTTCACCCCCTTGGACACAGCTGACCCAGCCAAGTCCC
  I  S  N  G  A  L  A  F  T  P  L  D  T  A  D  P  A  K  S  P
     |661                        |671

     |2041     |2051     |2061     |2071     |2081     |2091
CAAAGCCCAGCAATGGGGCTGGGGTCCCCAATGGAGCCCTCCGGGAGTCCGGGGGCTCAG
  K  P  S  N  G  A  G  V  P  N  G  A  L  R  E  S  G  G  S  G
     |681                        |691

     |2101     |2111     |2121     |2131     |2141     |2151
GCTTCCGGTCTCCCCACCTGTGGAAGAAGTCCAGCACGCTGACCAGCAGCCGCCTAGCCA
  F  R  S  P  H  L  W  K  K  S  S  T  L  T  S  S  R  L  A  T
     |701                        |711

     |2161     |2171     |2181     |2191     |2201     |2211
CCGGCGAGGAGGAGGGCGGTGGCAGCTCCAGCAAGCGCTTCCTGCGCTCTTGCTCCGCCT
  G  E  E  E  G  G  G  S  S  S  K  R  F  L  R  S  C  S  A  S
     |721                        |731

     |2221     |2231     |2241     |2251     |2261     |2271
CCTGCGTTCCCCATGGGGCCAAGGACACGGAGTGGAGGTCAGTCACGCTGCCTCGGGACT
  C  V  P  H  G  A  K  D  T  E  W  R  S  V  T  L  P  R  D  L
     |741                        |751

     |2281     |2291     |2301     |2311     |2321     |2331
TGCAGTCCACGGGAAGACAGTTTGACTCGTCCACATTTGGAGGGCACAAAAGTGAGAAGC
  Q  S  T  G  R  Q  F  D  S  S  T  F  G  G  H  K  S  E  K  P
     |761                        |771

     |2341     |2351     |2361     |2371     |2381     |2391
CGGCTCTGCCTCGGAAGAGGGCAGGGGAGAACAGGTCTGACCAGGTGACCCGAGGCACAG
  A  L  P  R  K  R  A  G  E  N  R  S  D  Q  V  T  R  G  T  V
     |781                        |791

     |2401     |2411     |2421     |2431     |2441     |2451
TAACGCCTCCCCCCAGGCTGGTGAAAAAGAATGAGGAAGCTGCTGATGAGGTCTTCAAAG
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  T  P  P  P  R  L  V  K  K  N  E  E  A  A  D  E  V  F  K  D
     |801                        |811

     |2461     |2471     |2481     |2491     |2501     |2511
ACATCATGGAGTCCAGCCCGGGCTCCAGCCCGCCCAACCTGACTCCAAAACCCCTCCGGC
  I  M  E  S  S  P  G  S  S  P  P  N  L  T  P  K  P  L  R  R
     |821                        |831

     |2521     |2531     |2541     |2551     |2561     |2571
GGCAGGTCACCGTGGCCCCTGCCTCGGGCCTCCCCCACAAGGAAGAAGCTGGAAAGGGCA
  Q  V  T  V  A  P  A  S  G  L  P  H  K  E  E  A  G  K  G  S
     |841                        |851

     |2581     |2591     |2601     |2611     |2621     |2631
GTGCCTTAGGGACCCCTGCTGCAGCTGAGCCAGTGACCCCCACCAGCAAAGCAGGCTCAG
  A  L  G  T  P  A  A  A  E  P  V  T  P  T  S  K  A  G  S  G
     |861                        |871

     |2641     |2651     |2661     |2671     |2681     |2691
GTGCACCAGGGGGCACCAGCAAGGGCCCCGCCGAGGAGTCCAGAGTGAGGAGGCACAAGC
  A  P  G  G  T  S  K  G  P  A  E  E  S  R  V  R  R  H  K  H
     |881                        |891

     |2701     |2711     |2721     |2731     |2741     |2751
ACTCCTCTGAGTCGCCAGGGAGGGACAAGGGGAAATTGTCCAGGCTCAAACCTGCCCCGC
  S  S  E  S  P  G  R  D  K  G  K  L  S  R  L  K  P  A  P  P
     |901                        |911

     |2761     |2771     |2781     |2791     |2801     |2811
CGCCCCCACCAGCAGCCTCTGCAGGGAAGGCTGGAGGAAAGCCCTCGCAGAGCCCGAGCC
  P  P  P  A  A  S  A  G  K  A  G  G  K  P  S  Q  S  P  S  Q
     |921                        |931

     |2821     |2831     |2841     |2851     |2861     |2871
AGGAGGCGGCCGGGGAGGCAGTCCTGGGCGCAAAGACAAAAGCCACGAGTCTGGTTGATG
  E  A  A  G  E  A  V  L  G  A  K  T  K  A  T  S  L  V  D  A
     |941                        |951

     |2881     |2891     |2901     |2911     |2921     |2931
CTGTGAACAGTGACGCTGCCAAGCCCAGCCAGCCGGGAGAGGGCCTCAAAAAGCCCGTGC
  V  N  S  D  A  A  K  P  S  Q  P  G  E  G  L  K  K  P  V  L
     |961                        |971

     |2941     |2951     |2961     |2971     |2981     |2991
TCCCGGCCACTCCAAAGCCACAGTCCGCCAAGCCGTCGGGGACCCCCATCAGCCCAGCCC
  P  A  T  P  K  P  Q  S  A  K  P  S  G  T  P  I  S  P  A  P
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     |981                          |991

     |3001     |3011     |3021     |3031     |3041     |3051
CCGTTCCCTCCACGTTGCCATCAGCATCCTCGGCCCTGGCAGGGGACCAGCCGTCTTCCA
  V  P  S  T  L  P  S  A  S  S  A  L  A  G  D  Q  P  S  S  T
     |1001                         |1011

     |3061     |3071     |3081     |3091     |3101     |3111
CCGCCTTCATCCCTCTCATATCAACCCGAGTGTCTCTTCGGAAAACCCGCCAGCCTCCAG
  A  F  I  P  L  I  S  T  R  V  S  L  R  K  T  R  Q  P  P  E
     |1021                         |1031

     |3121     |3131     |3141     |3151     |3161     |3171
AGCGGATCGCCAGCGGCGCCATCACCAAGGGCGTGGTCCTGGACAGCACCGAGGCGCTGT
  R  I  A  S  G  A  I  T  K  G  V  V  L  D  S  T  E  A  L  C
     |1041                         |1051

     |3181     |3191     |3201     |3211     |3221     |3231
GCCTCGCCATCTCTAGGAACTCCGAGCAGATGGCCAGCCACAGCGCAGTGCTGGAGGCCG
  L  A  I  S  R  N  S  E  Q  M  A  S  H  S  A  V  L  E  A  G
     |1061                         |1071

     |3241     |3251     |3261     |3271     |3281     |3291
GCAAAAACCTCTACACGTTCTGCGTGAGCTATGTGGATTCCATCCAGCAAATGAGGAACA
  K  N  L  Y  T  F  C  V  S  Y  V  D  S  I  Q  Q  M  R  N  K
     |1081                         |1091

     |3301     |3311     |3321     |3331     |3341     |3351
AGTTTGCCTTCCGAGAGGCCATCAACAAACTGGAGAATAATCTCCGGGAGCTTCAGATCT
  F  A  F  R  E  A  I  N  K  L  E  N  N  L  R  E  L  Q  I  C
     |1101                         |1111

     |3361     |3371     |3381     |3391     |3401     |3411
GCCCGGCGACAGCAGGCAGTGGTCCAGCGGCCACTCAGGACTTCAGCAAGCTCCTCAGTT
  P  A  T  A  G  S  G  P  A  A  T  Q  D  F  S  K  L  L  S  S
     |1121                         |1131

     |3421     |3431     |3441     |*1       |*11      |*21
CGGTGAAGGAAATCAGTGACATAGTGCAGAGGTAGCAGCAGTCAGGGGTCAGGTGTCAGG
  V  K  E  I  S  D  I  V  Q  R  *
     |1141                         |1151

     |*31      |*41      |*51      |*61      |*71      |*81
CCCGTCGGAGCTGCCTGCAGCACATGCGGGCTCGCCCATACCCGTGACAGTGGCTGACAA

     |*91      |*101     |*111     |*121     |*131     |*141
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GGGACTAGTGAGTCAGCACCTTGGCCCAGGAGCTCTGCGCCAGGCAGAGCTGAGGGCCCT

     |*151      |*161      |*171      |*181      |*191      |*201
GTGGAGTCCAGCTCTACTACCTACGTTTGCACCGCCTGCCCTCCCGCACCTTCCTCCTCC

     |*211      |*221      |*231      |*241      |*251      |*261
CCGCTCCGTCTCTGTCCTCGAATTTTATCTGTGGAGTTCCTGCTCCGTGGACTGCAGTCG

     |*271      |*281      |*291      |*301      |*311      |*321
GCATGCCAGGACCCGCCAGCCCCGCTCCCACCTAGTGCCCCAGACTGAGCTCTCCAGGCC

     |*331      |*341      |*351      |*361      |*371      |*381
AGGTGGGAACGGCTGATGTGGACTGTCTTTTTCATTTTTTTCTCTCTGGAGCCCCTCCTC

     |*391      |*401      |*411      |*421      |*431      |*441
CCCCGGCTGGGCCTCCTTCTTCCACTTCTCCAAGAATGGAAGCCTGAACTGAGGCCTTGT

     |*451      |*461      |*471      |*481      |*491      |*501
GTGTCAGGCCCTCTGCCTGCACTCCCTGGCCTTGCCCGTCGTGTGCTGAAGACATGTTTC

     |*511      |*521      |*531      |*541      |*551      |*561
AAGAACCGCATTTCGGGAAGGGCATGCACGGGCATGCACACGGCTGGTCACTCTGCCCTC

     |*571      |*581      |*591      |*601      |*611      |*621
TGCTGCTGCCCGGGGTGGGGTGCACTCGCCATTTCCTCACGTGCAGGACAGCTCTTGATT

     |*631      |*641      |*651      |*661      |*671      |*681
TGGGTGGAAAACAGGGTGCTAAAGCCAACCAGCCTTTGGGTCCTGGGCAGGTGGGAGCTG

     |*691      |*701      |*711      |*721      |*731      |*741
AAAAGGATCGAGGCATGGGGCATGTCCTTTCCATCTGTCCACATCCCCAGAGCCCAGCTC

     |*751      |*761      |*771      |*781      |*791      |*801
TTGCTCTCTTGTGACGTGCACTGTGAATCCTGGCAAGAAAGCTTGAGTCTCAAGGGTGGC

     |*811      |*821      |*831      |*841      |*851      |*861
AGGTCACTGTCACTGCCGACATCCCTCCCCCAGCAGAATGGAGGCAGGGGACAAGGGAGG

     |*871      |*881      |*891      |*901      |*911      |*921
CAGTGGCTAGTGGGGTGAACAGCTGGTGCCAAATAGCCCCAGACTGGGCCCAGGCAGGTC

     |*931      |*941      |*951      |*961      |*971      |*981
TGCAAGGGCCCAGAGTGAACCGTCCTTTCACACATCTGGGTGCCCTGAAAGGGCCCTTCC

     |*991      |*1001     |*1011     |*1021     |*1031     |*1041
CCTCCCCCACTCCTCTAAGACAAAGTAGATTCTTACAAGGCCCTTTCCTTTGGAACAAGA
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     |*1051     |*1061     |*1071     |*1081     |*1091     |*1101
CAGCCTTCACTTTTCTGAGTTCTTGAAGCATTTCAAAGCCCTGCCTCTGTGTAGCCGCCC

     |*1111     |*1121     |*1131     |*1141     |*1151     |*1161
TGAGAGAGAATAGAGCTGCCACTGGGCACCTGCGCACAGGTGGGAGGAAAGGGCCTGGCC

     |*1171     |*1181     |*1191     |*1201     |*1211     |*1221
AGTCCTGGTCCTGGCTGCACTCTTGAACTGGGCGAATGTCTTATTTAATTACCGTGAGTG

     |*1231     |*1241     |*1251     |*1261     |*1271     |*1281
ACATAGCCTCATGTTCTGTGGGGGTCATCAGGGAGGGTTAGGAAAACCACAAACGGAGCC

     |*1291     |*1301     |*1311     |*1321     |*1331     |*1341
CCTGAAAGCCTCACGTATTTCACAGAGCACGCCTGCCATCTTCTCCCCGAGGCTGCCCCA

     |*1351     |*1361     |*1371     |*1381     |*1391     |*1401
GGCCGGAGCCCAGATACGGGGGCTGTGACTCTGGGCAGGGACCCGGGGTCTCCTGGACCT

     |*1411     |*1421     |*1431     |*1441     |*1451     |*1461
TGACAGAGCAGCTAACTCCGAGAGCAGTGGGCAGGTGGCCGCCCCTGAGGCTTCACGCCG

     |*1471     |*1481     |*1491     |*1501     |*1511     |*1521
GGAGAAGCCACCTTCCCACCCCTTCATACCGCCTCGTGCCAGCAGCCTCGCACAGGCCCT

     |*1531     |*1541     |*1551     |*1561     |*1571     |*1581
AGCTTTACGCTCATCACCTAAACTTGTACTTTATTTTTCTGATAGAAATGGTTTCCTCTG

     |*1591     |*1601     |*1611     |*1621     |*1631     |*1641
GATCGTTTTATGCGGTTCTTACAGCACATCACCTCTTTGCCCCCGACGGCTGTGACGCAG

     |*1651     |*1661     |*1671     |*1681     |*1691     |*1701
CCGGAGGGAGGCACTAGTCACCGACAGCGGCCTTGAAGACAGAGCAAAGCGCCCACCCAG

     |*1711     |*1721     |*1731     |*1741     |*1751     |*1761
GTCCCCCGACTGCCTGTCTCCATGAGGTACTGGTCCCTTCCTTTTGTTAACGTGATGTGC

     |*1771     |*1781     |*1791     |*1801     |*1811     |*1821
CACTATATTTTACACGTATCTCTTGGTATGCATCTTTTATAGACGCTCTTTTCTAAGTGG

     |*1831     |*1841     |*1851     |*1861     |*1871     |*1881
CGTGTGCATAGCGTCCTGCCCTGCCCCCTCGGGGGCCTGTGGTGGCTCCCCCTCTGCTTC

     |*1891     |*1901     |*1911     |*1921     |*1931     |*1941
TCGGGGTCCAGTGCATTTTGTTTCTGTATATGATTCTCTGTGGTTTTTTTTGAATCCAAA
```

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     |*1951     |*1961     |*1971     |*1981     |*1991
TCTGTCCTCTGTAGTATTTTTTAAATAAATCAGTGTTTACATTAGAA


LRG 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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