

Gene: ABL1 - Sequence: NG\_012034.1  
 Transcript: NM\_007313.2 - Protein: NP\_009297.2  
 Date : February 20, 2015

1<sup>st</sup> line: Base numbering. Full stops for intronic +/- 5, 10, 15...  
 2<sup>nd</sup> line: Base sequence. lower case Introns, upper case Exons  
 3<sup>rd</sup> line: Amino acid sequence. Printed on MIDDLE base of codon  
 4<sup>th</sup> line: Amino acid numbering. Numbered on 1<sup>st</sup> 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	
TTTCTGTTTAGGTTTTTCTTCTTGAAAAGAAATTGTTATTCAGCCCGTTTAAACAAATC						
-259	-249	-239	-229	-219	-209	
AAGAACTTTTGGGTAAACATTGCAATTACATGAAATTGATAACCGCGAAAATAATTGGAA						
-199	-189	-179	-169	-159	-149	
CTCCTGCTTGCAAGTGCAACCTAAAAAAGTGCTTCCTTTTGTTATGGAAGATGTCCTTT						
-139	-129	-119	-109	-99	-89	
CTGTGATTGACTTCAATTGCTGACTTGTGGAGATGCAGCGAATGTGAAATCCCACGTATA						
-79	-69	-59	-49	-39	-29	
TGCCATTTCCCTCTACGCTCGCTGACCGTTCTGGAAGATCTTGAACCCTCTTCTGGAAAG						
-19	-9	1	11	21	31	41
GGGTACCTATTATTACTTTATGGGGCAGCAGCCTGAAAAAGTACTTGGGGACCAAAGAAG						
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						
TGGGGTCCCACTGCAATGTTTTTGTGGAACATG						

|41

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

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

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

      |261      |271      |281      |291      |301
TTGCACTGTATGATTTTGTGGCCAGTGGAGATAACACTCTAAGCATAACTAAAG
      |91              |101
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Exon 4 | Start: 145921 | End: 146216 | Length: 295

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

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

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

      |491      |501      |511      |521      |531      |541
TCAATGGCAGCTTCTTGGTGCCTGAGAGTGAGAGCAGTCCTGGCCAGAGGTCCATCTCGC
I  N  G  S  F  L  V  R  E  S  E  S  S  P  G  Q  R  S  I  S
      |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
ACGGTGGCCGACGGGCTCATCACCAAGCTCCATTATCCAGCCCCAAAGCGCAACAAGCCC
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
ACTGTCTATGGTGTGTCCCCAACTACGACAAGTGGGAGATGGAACGCACGGACATCACC
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
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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
CACCCCTAACCTGGTGCAGCTCCTTG
                        |321
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Exon 7 | Start: 163980 | End: 164157 | Length: 177

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      |971      |981      |991      |1001     |1011     |1021
GGGTCTGCACCCGGGAGCCCCCGTTCTATATCATCACTGAGTTCATGACCTACGGGAACC
G  V  C  T  R  E  P  P  F  Y  I  I  T  E  F  M  T  Y  G  N
                        |331                                |341
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1031	1041	1051	1061	1071	1081
TCCTGGACTACCTGAGGGAGTGCAACCGGCAGGAGGTGAACGCCGTGGTGCTGCTGTACA					
L L D Y L R E C N R Q E V N A V V L L Y					
		351			361

  

1091	1101	1111	1121	1131	1141
TGGCCACTCAGATCTCGTCAGCCATGGAGTACCTGGAGAAGAAAACTTCATCCACAG					
		371			381

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

1151	1161	1171	1181	1191	1201
AGATCTTGCTGCCCCGAAACTGCCTGGTAGGGGAGAACCACCTTGGTGAAGGTAGCTGATTT					
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

CTGGG

Exon 9 | Start: 169535 | End: 169687 | Length: 152

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

  

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

  

1451	1461	1471
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CCCCAGAGAAGGTCTATGAACTCATGCGAGCAT  
|491

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

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

|1541 |1551 |1561  
CAATGTTCCAGGAATCCAGTATCTCAGACG  
|521

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

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

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

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

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

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

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

|1861 |1871 |1881 |1891 |1901 |1911

TCAGCGCCTTGATCAAGAAGAAGAAGAAGACAGCCCCAACCCCTCCCAAACGCAGCAGCT  
 F S A L I K K K K K T A P T P P K R S S  
 |621 |631

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

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

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

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

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

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

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

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

|2401 |2411 |2421 |2431 |2441 |2451  
 TAACGCCTCCCCCAGGCTGGTGAAAAAGAATGAGGAAGCTGCTGATGAGGTCTTCAAAG

V T P P P R L V K K N E E A A D E V F K  
|801 |811  
|2461 |2471 |2481 |2491 |2501 |2511  
ACATCATGGAGTCCAGCCGGGCTCCAGCCGCCCAACCTGACTCCAAAACCCCTCCGGC  
D I M E S S P G S S P P N L T P K P L R  
|821 |831  
|2521 |2531 |2541 |2551 |2561 |2571  
GGCAGGTCACCGTGGCCCTGCCTCGGGCCTCCCCACAAGGAAGAAGCTGGAAGGGCA  
R Q V T V A P A S G L P H K E E A G K G  
|841 |851  
|2581 |2591 |2601 |2611 |2621 |2631  
GTGCCTTAGGGACCCCTGCTGCAGCTGAGCCAGTGACCCCCACCAGCAAAGCAGGCTCAG  
S A L G T P A A A E P V T P T S K A G S  
|861 |871  
|2641 |2651 |2661 |2671 |2681 |2691  
GTGCACCAGGGGGCACCAGCAAGGGCCCCGCGAGGAGTCCAGAGTGAGGAGGCACAAGC  
G A P G G T S K G P A E E S R V R R H K  
|881 |891  
|2701 |2711 |2721 |2731 |2741 |2751  
ACTCCTCTGAGTCGCCAGGGAGGGACAAGGGGAAATTGTCCAGGCTCAAACCTGCCCCGC  
H S S E S P G R D K G K L S R L K P A P  
|901 |911  
|2761 |2771 |2781 |2791 |2801 |2811  
CGCCCCCACCAGCAGCTCTGCAGGGAAGGCTGGAGGAAAGCCCTCGCAGAGCCCGAGCC  
P P P P A A S A G K A G G K P S Q S P S  
|921 |931  
|2821 |2831 |2841 |2851 |2861 |2871  
AGGAGGCGGCCGGGAGGCAGTCCTGGGCGCAAAGACAAAAGCCACGAGTCTGGTTGATG  
Q E A A G E A V L G A K T K A T S L V D  
|941 |951  
|2881 |2891 |2901 |2911 |2921 |2931  
CTGTGAACAGTGACGCTGCCAAGCCCAGCCAGCCGGGAGAGGGCCTCAAAAAGCCCGTGC  
A V N S D A A K P S Q P G E G L K K P V  
|961 |971  
|2941 |2951 |2961 |2971 |2981 |2991  
TCCCGGCCACTCCAAAGCCACAGTCCGCCAAGCCGTCGGGGACCCCATCAGCCCAGCCC  
L P A T P K P Q S A K P S G T P I S P A

981						991
3001	3011	3021	3031	3041	3051	
CCGTTCCCTCCACGTTGCCATCAGCATCCTCGGCCCTGGCAGGGGACCAGCCGTCTTCCA						
P	V	P	S	T	L	
P	S	A	S	S	A	
L	A	G	D	Q	P	
S	S					
1001					1011	
3061	3071	3081	3091	3101	3111	
CCGCCTTCATCCCTCTCATATCAACCCGAGTGTCTCTTCGGAAAACCCGCCAGCCTCCAG						
T	A	F	I	P	L	
I	S	T	R	V	S	
L	R	K	T	R	Q	
P	P					
1021					1031	
3121	3131	3141	3151	3161	3171	
AGCGGATCGCCAGCGGCGCCATCACCAAGGGCGTGGTCCTGGACAGCACCGAGGCGCTGT						
E	R	I	A	S	G	
A	I	T	K	G	V	
V	L	D	S	T	E	
A	L					
1041					1051	
3181	3191	3201	3211	3221	3231	
GCCTCGCCATCTCTAGGAACCTCCGAGCAGATGGCCAGCCACAGCGAGTGCTGGAGGCCG						
C	L	A	I	S	R	
N	S	E	Q	M	A	
S	H	S	A	V	L	
E	A					
1061					1071	
3241	3251	3261	3271	3281	3291	
GCAAAAACCTCTACACGTTCTGCGTGAGCTATGTGGATTCCATCCAGCAAATGAGGAACA						
G	K	N	L	Y	T	
F	C	V	S	Y	V	
D	S	I	Q	Q	M	
R	N					
1081					1091	
3301	3311	3321	3331	3341	3351	
AGTTTGCTTCCGAGAGGCCATCAACAACTGGAGAATAATCTCCGGGAGCTTCAGATCT						
K	F	A	F	R	E	
A	I	N	K	L	E	
N	N	L	R	E	L	
Q	I					
1101					1111	
3361	3371	3381	3391	3401	3411	
GCCCCGCGACAGCAGGCAGTGGTCCAGCGGCCACTCAGGACTTCAGCAAGCTCCTCAGTT						
C	P	A	T	A	G	
S	G	P	A	A	T	
Q	D	F	S	K	L	
L	S					
1121					1131	
3421	3431	3441	3451	+11	+21	
CGGTGAAGGAAATCAGTGACATAGTGCAGAGGTAGCAGCAGTCAGGGGTCAGGTGTCAGG						
S	V	K	E	I	S	
D	I	V	Q	R	*	
1141					1151	
+31	+41	+51	+61	+71	+81	
CCCGTCGGAGCTGCCTGCAGCACATGCGGGCTCGCCCATACCCGTGACAGTGCGCTGACAA						
+91	+101	+111	+121	+131	+141	



GGGACTAGTGAGTCAGCACCTTGGCCCAGGAGCTCTGCGCCAGGCAGAGCTGAGGGCCCT

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

      |+211      |+221      |+231      |+241      |+251      |+261  
CCGCTCCGTCTCTGTCTCGAATTTTATCTGTGGAGTTCCTGCTCCGTGGACTGCAGTCG

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

      |+331      |+341      |+351      |+361      |+371      |+381  
AGGTGGGAACGGCTGATGTGGACTGTCTTTTTCATTTTTTCTCTCTGGAGCCCCCTCCTC

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

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

      |+511      |+521      |+531      |+541      |+551      |+561  
AAGAACCGCATTTTCGGAAGGGCATGCACGGGCATGCACACGGCTGGTCACTCTGCCCTC

      |+571      |+581      |+591      |+601      |+611      |+621  
TGCTGCTGCCCGGGTGGGGTGCCTCGCCATTTCCTCACGTGCAGGACAGCTCTTGATT

      |+631      |+641      |+651      |+661      |+671      |+681  
TGGGTGAAAAACAGGTGCTAAAGCCAACCAGCCTTTGGGTCTGGGCAGGTGGGAGCTG

      |+691      |+701      |+711      |+721      |+731      |+741  
AAAAGGATCGAGGCATGGGGCATGTCTTTCCATCTGTCCACATCCCCAGAGCCCAGCTC

      |+751      |+761      |+771      |+781      |+791      |+801  
TTGCTCTCTTGTGACGTGCACTGTGAATCCTGGCAAGAAAGCTTGAGTCTCAAGGTGGC

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

      |+871      |+881      |+891      |+901      |+911      |+921  
CAGTGGCTAGTGGGTGAACAGCTGGTGCCAAATAGCCCCAGACTGGGCCCAGGCAGGTC

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

      |+991      |+1001      |+1011      |+1021      |+1031      |+1041  
CCTCCCCCACTCCTCTAAGACAAAGTAGATTCTTACAAGGCCCTTTCCTTTGGAACAAGA

+1051	+1061	+1071	+1081	+1091	+1101
CAGCCTTCACTTTTCTGAGTTCTTGAAGCATTTCAAAGCCCTGCCTCTGTGTAGCCGCC					
+1111	+1121	+1131	+1141	+1151	+1161
TGAGAGAGAATAGAGCTGCCACTGGGCACCTGCGCACAGGTGGGAGGAAAGGGCCTGGCC					
+1171	+1181	+1191	+1201	+1211	+1221
AGTCTGGTCTGGCTGCACTCTTGAAGTGGGCGAATGTCTTATTTAATTACCGTGAGTG					
+1231	+1241	+1251	+1261	+1271	+1281
ACATAGCCTCATGTTCTGTGGGGTCATCAGGGAGGGTTAGGAAAACCACAAACGGAGCC					
+1291	+1301	+1311	+1321	+1331	+1341
CCTGAAAGCCTCACGTATTTACAGAGCACGCCTGCCATCTTCTCCCCGAGGCTGCCCCA					
+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
AGCTTTACGCTCATCACCTAACTTGTACTTTATTTTTCTGATAGAAATGTTTCTCTG					
+1591	+1601	+1611	+1621	+1631	+1641
GATCGTTTTATGCGGTTCTTACAGCACATCACCTCTTTGCCCCGACGGCTGTGACGCAG					
+1651	+1661	+1671	+1681	+1691	+1701
CCGGAGGGAGGCACTAGTCACCGACAGCGGCCTGAAGACAGAGCAAAGCGCCCACCCAG					
+1711	+1721	+1731	+1741	+1751	+1761
GTCCCCGACTGCCTGTCTCCATGAGGTACTGGTCCCTTCCTTTTGTTAACGTGATGTGC					
+1771	+1781	+1791	+1801	+1811	+1821
CACTATATTTTACACGTATCTCTTGGTATGCATCTTTTATAGACGCTCTTTTCTAAGTGG					
+1831	+1841	+1851	+1861	+1871	+1881
CGTGTGCATAGCGTCCTGCCCTGCCCCCTCGGGGGCCTGTGGTGGCTCCCCCTCTGCTTC					
+1891	+1901	+1911	+1921	+1931	+1941
TCGGGGTCCAGTGCATTTTGTCTGTATATGATTCTCTGTGGTTTTTTTTGAATCCAAA					

|+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