Supplemental Materials

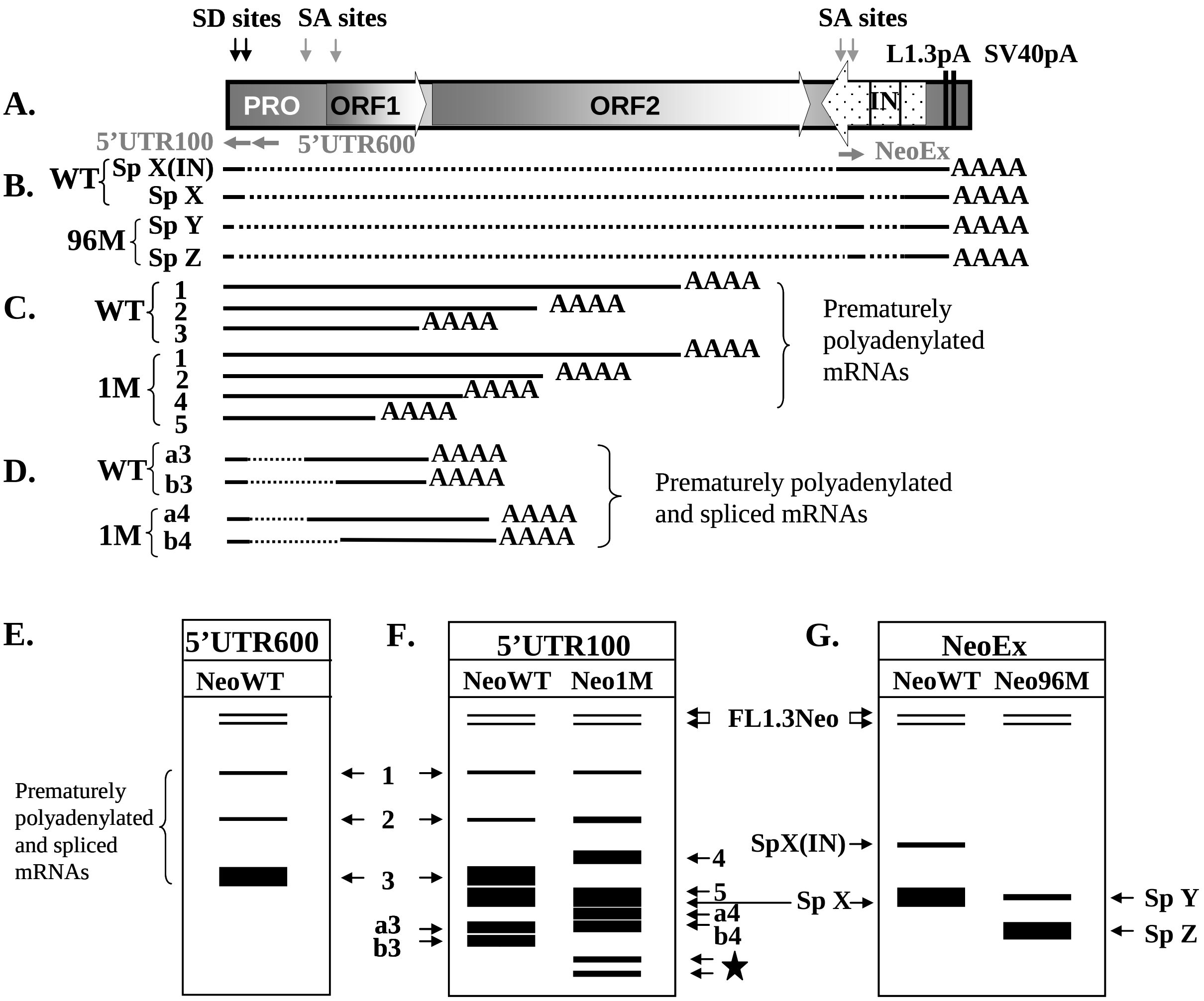
Supplemental Table 1
Retrotransposed spliced L1.3 copies in the human genome

SD	SA	Chromosome #	Accession #
97	976	14	AL163952
		3	AC093115
		12	AF188024
		6	AL133472
		1	AL138900
		4	AC093808
		X	AL807813
		8	AC079018
		9	AL353590
		2	AC0099487

Retrotransposed spliced L1 spa copies in the mouse genome

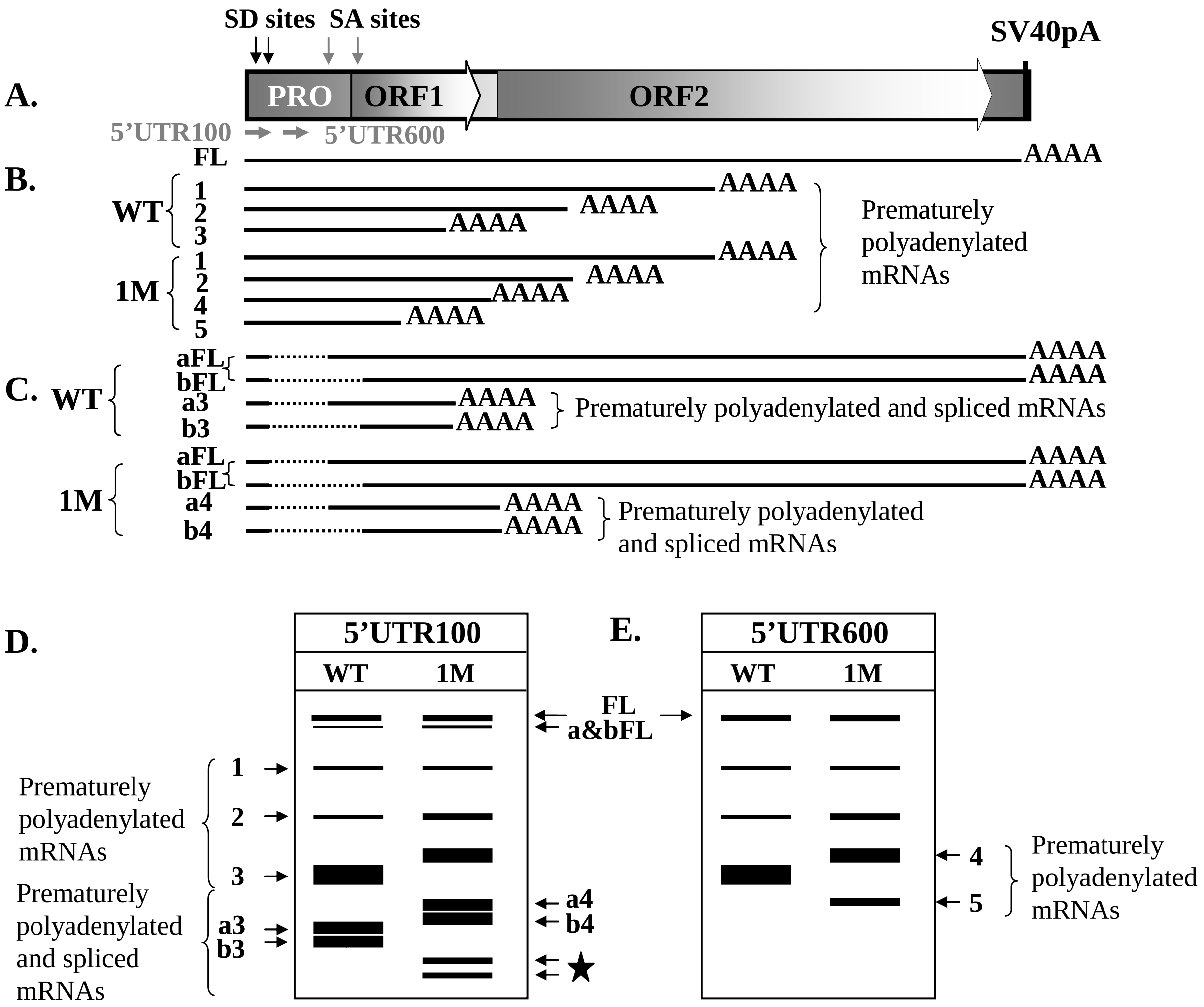
SD	SA	Chromosome #	Accession #
27	**1514**	12	CA125142
		7	AC102220
		6	AC078790
		X	AL954355
		18	AC125166
		14	AC133495
27	**1597**	X	AL662923
		11	AL646046
		5	AC036146
		2	AL845483
		1	AC107832
		14	AC124709
		15	AC122834
		12	AC122029
		10	AC153559
27	**1702**	X	BX119996
			AC133213
239	**1597**	5	AC036146
		X	AL671880
		15	AC122834
		14	AC124709
		2	AL845483

Supplemental table 1. Examples of the spliced retrotransposed L1 elements in the human and mouse genomes. SD and SA columns indicate the positions of the splice donor and acceptor sites in either L1.3 or L1spa genomes. Chromosomal location and accession numbers are listed for each retrotransposition event.



Supplemental figure 1. Schematic representation of the mRNA species produced by L1.3 expression vector tagged with the neomycin (Neo) resistance cassette and driven by CMV promoter. A. A diagram of the L1.3Neo expression cassette containing L1.3 5'UTR (PRO), open reading frames 1 and 2 (ORF1 and ORF2) as depicted in figure 1B. The neomycin resistance gene is positioned in the reverse orientation relative to the L1.3 expression and is interrupted by the intron that can be spliced out during L1.3 transcription (IN). Black and gray vertical arrows represent functional splice donor (SD) and splice acceptor (SA) sites, respectively. Gray horizontal arrows indicate relative positions of the strand-specific RNA probes complementary to the first 100 bp (5'UTR100), positions 583 to 698 (5'UTR600) of the L1.3 sequence or to the second exon of the Neo resistance gene (NeoEx). Note that the 5'UTR100 probe would detect both spliced and unspliced mRNAs while 5'UTR600 probe would only detect mRNA species that did not have that region removed by splicing. **B.** Splice products produced by L1.3Neo expression vector transiently transfected in NIH 3T3 cells and detected by RT-PCR and northern blot analysis with the strand-specific probe to the second exon. Solid black lines represent part of the L1.3 sequence included in the transcripts. Dotted lines represent portions of the L1.3 element that are spliced out during L1.3 transcription and are not present in the mature mRNAs. A major splice product produced by the wild type

(WT) L1.3Neo, SpX, is a result of the usage of the splice donor site in the 5’ UTR at position 97 of L1.3 sequence and splice acceptor site at the end of the second exon of the neomycin resistance gene. SpX mRNA also does not contain any intronic sequences of the neo resistance gene. A less abundant product, SpX(IN), produced by the wt L1.3Neo construct results from the usage of the same splice donor and acceptor sites as SpX, but contains unspliced intron of the neo resistance cassette. **C.** Schematic representation of the previously reported prematurely polyadenylated mRNA species produced by L1.3Neo WT and 1M. 1M contains a double mutation in the conserved hexamer of the strongest polyA signal located at the end of ORF1 of the L1.3 element. Usage of this polyA signal during transcription of the wt L1.3 element produces mRNA species 3 that is absent in the 1M mutant. Instead, the 1M element makes mRNAs “a” and “b”4 and 5 by utilization of the polyA signals located downstream and upstream, respectively, of the mutated one. 3’ ends of the solid black lines representing prematurely polyadenylated mRNAs correspond to the relative positions of the polyA signals in the L1.3 sequences responsible for their production. **D.** A diagram of the prematurely polyadenylated and spliced mRNAs species produced by the WT and 1M L1.3Neo elements. Solid and dotted black lines represent L1.3 sequences included in or spliced out of the mRNA molecules respectively. 3’ ends of these spliced and polyadenylated mRNAs correspond to the relative positions of the polyA signals in the L1.3 sequences responsible for their production. Spliced, prematurely polyadenylated mRNAs are labeled by combining the splice junction name (a or b) with the name of the polyA signal used for termination of the spliced mRNA species (a3 and b3 for the WT construct and a4, b4 for the 1M construct). **E.** A virtual northern blot representing mRNAs produced by the NeoWT L1.3 expression cassette. mRNAs were detected with 5’UTR600 probe that visualizes only the unspliced, prematurely polyadenylated molecules (described in C). **F.** A virtual northern blot representing mRNAs produced by NeoWT and Neo1M L1.3 expression vectors. mRNAs were detected with 5’UTR100 probe that visualizes the unspliced and spliced prematurely polyadenylated molecules (described in C and D) and splice variants between L1.3 sequence and neo resistance gene (described in B). Unspliced prematurely polyadenylated mRNAs are labeled 1-5. Spliced prematurely polyadenylated mRNAs are labeled by combining the splice junction name (a or b) with the name of the polyA site used for termination of the spliced mRNA species (a3 and b3 for the WT construct and a4, b4, for the 1M construct). The star denotes bands seen in the actual northern for which the appropriate combination of splicing and polyadenylation has not been determined. **G.** A virtual northern blot representing mRNAs produced by NeoWT and the mutant of the major SD site position 97 of the L1.3 sequence, Neo97M, L1.3 expression cassette. mRNAs were detected with the strand-specific probe to the second exon of the neo resistance gene (NeoEx) that visualizes splice variants between the L1.3 sequence and the neo resistance gene(described in B) in addition to the previously described full-length L1.3 mRNAs (FL1.3Neo) with spliced (faster migrating band of the doublet) and unspliced (slower migrating band of the doublet) neo intron. Note the similarity in size between the splice variants SpX and Y most likely resulting from the usage of the SD site located only about 50 bp upstream of the mutated SD site (A of this figure and also see figure 6 for the actual northern blot).



Supplemental figure 2. Schematic representation of the mRNA species produced by the L1.3notag expression vector driven by CMV promoter. A. A diagram of the L1.3notag expression cassette containing the L1 promoter (PRO), open reading frames 1 and 2 (ORF1 and ORF2) and an SV40 polyadenylation signal as depicted in figure 3A. Black and gray vertical arrows represent functional splice donor (SD) and splice acceptor (SA) sites, respectively. Gray horizontal arrows indicate relative positions of the strand-specific RNA probes complementary to the first 100 bp (5'UTR100) or positions 583 to 698 (5'UTR600) of the L1.3 sequence. **B.** Schematic representation of the previously reported full-length (FL) and prematurely polyadenylated mRNA species produced by L1.3notag WT and a mutant of this construct that lacks the strongest polyA site (1M). 1M of L1.3notag contains the same mutation as described for the 1M mutant of the L1.3Neo expression vector. Prematurely polyadenylated mRNA species produced by the WT and 1M L1.3notag are identical to those observed for the WT and 1M L1.3Neo expression vector (Figure 2B and schematized in supplemental figure 1). 3' ends of the solid black lines representing prematurely polyadenylated mRNAs correspond to the relative positions of the polyA signals in the L1.3 sequences responsible for their production. **C.** A diagram of the prematurely polyadenylated and spliced mRNAs species produced by the WT and 1M L1.3notag elements. Solid and dotted black lines represent L1.3 sequences included in or spliced out of the mRNA molecules respectively. 3' ends of these spliced and polyadenylated mRNAs correspond to the relative positions of the polyA signals in the L1.3 sequences responsible for their production. a3 and b3; a4, b4 mRNA species produced by the WT and 1M L1.3notag, respectively, are the same products that were described for the WT and 1M L1.3Neo constructs. The letter corresponds to the splice junction and the number represents the polyA site characteristic to a particular transcript. In addition to these spliced and prematurely polyadenylated products L1.3notag also makes mRNAs that undergo splicing at the SD and SA sites described for a3 and b3 mRNAs but terminate at the end of the L1.3 sequence, aFL and bFL (Figure 4). These spliced products are retrotranspositionally competent (see text for details). **D.** A virtual northern blot representing mRNAs produced by WT and 1M L1.3notag expression vectors. mRNAs were detected with 5'UTR100 probe that visualizes the unspliced and spliced prematurely polyadenylated molecules (described in B and C) and "aFL" and "bFL" splice variants that terminate at the end of the L1.3 sequence(described in C). Unspliced prematurely polyadenylated mRNAs are labeled 1-5. Spliced prematurely polyadenylated mRNAs are labeled by combining the splice junction name (a or b) with the name of the polyA site used for termination of the spliced mRNA species (a3 and b3 for the WT construct and a4, b4vfor the 1M construct). The star denotes bands with as yet uncharacterized splicing and polyadenylation. **E.** A virtual northern blot representing mRNAs produced by WT and 1M L1.3notag expression vectors. mRNAs were detected with 5'UTR600 probe that visualizes only the unspliced polyadenylated molecules (described in B).

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      ---------+---------+---------+---------+---------+---------+---------+
               10        20        30        40        50        60        70
      ---------+---------+---------+---------+---------+---------+---------+
    1 GGGGGAGGAGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGCGACGCAGAAG
L1.3splice790
    1 ------------.......................................T.................. AC093006
    1 ------....................................................C........... AL031985
    1 ------................................................................ AL137022
    1 --------------........................................................ AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               80        90        100       110       120       130       140
      ---------+---------+---------+---------+---------+---------+---------+
   71 AC-GGTGATTTCTGCATTTCCATCTGAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACA
L1.3splice790
   59 ..-................................................................... AC093006
   65 ..C................................................................... AL031985
   65 ..A.............................A..................................... AL137022
   57 ..G................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               150       160       170       180       190       200       210
      ---------+---------+---------+---------+---------+---------+---------+
  140 ACCAGAAAGGACATCTACACCGAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGATAAAA
L1.3splice790
  128 ...................................................................... AC093006
  135 .A.............C.....A............................C................... AL031985
  135 .A.............C.....A.........................................C...... AL137022
  127 .A.............C...................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               220       230       240       250       260       270       280
      ---------+---------+---------+---------+---------+---------+---------+
  210 CCACAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAACGCAGAGCGCCTCTCCTCCTCC
L1.3splice790
  198 .................................................A.................... AC093006
  205 .......................................G...C....AT.................... AL031985
  205 .........................TC........................................... AL137022
  197 ......................C..T......................G..................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               290       300       310       320       330       340       350
      ---------+---------+---------+---------+---------+---------+---------+
  280 AAAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAGAATGATTTTGACGAGCTGAGAGAA
L1.3splice790
  268 ...........................A.......................................... AC093006
  275 ............C..............A.......................C.................. AL031985
  275 ........A.............AA...A.......................C.................. AL137022
  267 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               360       370       380       390       400       410       420
      ---------+---------+---------+---------+---------+---------+---------+
  350 GAAGGCTTCAGACGATCAAATTACTCTGAGCTACGGGAGGACATTCAAACCAAAGGCAAAGAAGTTGAAA
L1.3splice790
  338 ...................................................................... AC093006
  345 ...................................................................... AL031985
  345 .................................T................................A... AL137022
  337 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               430       440       450       460       470       480       490
      ---------+---------+---------+---------+---------+---------+---------+
  420 ACTTTGAAAAAAATTTAGAAGAATGTATAACTAGAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGAT
L1.3splice790
  408 ...................................................................... AC093006
  415 ...................................................................... AL031985
  415 .....T................................................................ AL137022
  407 .......................................................T.............. AP000560
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      ---------+---------+---------+---------+---------+---------+---------+
              500       510       520       530       540       550       560
      ---------+---------+---------+---------+---------+---------+---------+
  490 GGAGCTGAAAACCAAGGCTCGAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCAACTG
L1.3splice790
  478 ...................................................................... AC093006
  485 ...................................................................... AL031985
  485 ...............C.............................................C........ AL137022
  477 ...................T.........A........................................ AP000560

      ---------+---------+---------+---------+---------+---------+---------+
              570       580       590       600       610       620       630
      ---------+---------+---------+---------+---------+---------+---------+
  560 GAAGAAAGGGTATCAGCAATGGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGAGAAAAAA
L1.3splice790
  548 ...................................................................... AC093006
  555 ...........G.......................................................G.. AL031985
  555 ...................................................................... AL137022
  547 .................G.................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
              640       650       660       670       680       690       700
      ---------+---------+---------+---------+---------+---------+---------+
  630 GAATAAAAAGAAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCAAATCTACGTCTGAT
L1.3splice790
  618 ...................................................................... AC093006
  625 ..G............................................................A...... AL031985
  625 ...................................................................C.. AL137022
  617 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
              710       720       730       740       750       760       770
      ---------+---------+---------+---------+---------+---------+---------+
  700 TGGTGTACCTGAAAGTGATGTGGAGAATGGAACCAAGTTGGAAAACACTCTGCAGGATATTATCCAGGAG
L1.3splice790
  688 ...................................................................... AC093006
  695 ....................G................................................. AL031985
  695 ....................G................................................. AL137022
  687 ....A...............G................................................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
              780       790       800       810       820       830       840
      ---------+---------+---------+---------+---------+---------+---------+
  770 AACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAGATTCAGGAAATACAGAGAACGCCACAAAGATACT
L1.3splice790
  758 ...................................................................... AC093006
  765 ............T......................................................... AL031985
  765 .............................T..........................A............. AL137022
  757 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
              850       860       870       880       890       900       910
      ---------+---------+---------+---------+---------+---------+---------+
  840 CCTCGAGAAGAGCAACTCCAAGACACATAATTGTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTT
L1.3splice790
  828 ...................................................................... AC093006
  835 ...................................................................... AL031985
  835 ...................................................................... AL137022
  827 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
              920       930       940       950       960       970       980
      ---------+---------+---------+---------+---------+---------+---------+
  910 AAGGGCAGCCAGAGAGAAAGGTCGGGTTACCCTCAAAGGAAAGCCCATCAGACTAACAGTGGATCTCTCG
L1.3splice790
  898 ...........................................................C.......... AC093006
  905 .......................................G...................C.........A AL031985
  905 .......................................G...................C.......... AL137022
  897 ..........................--------.....G...................C.......... AP000560

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               990       1000      1010      1020      1030      1040      1050
      ---------+---------+---------+---------+---------+---------+---------+
  980 GCAGAAACCCTACAAGCCAGAAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTTCAAC
L1.3splice790
  968 ...................................................................... AC093006
  975 ...................................................................... AL031985
  975 ...................................................................... AL137022
  959 ......................A................................G.............. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1060      1070      1080      1090      1100      1110      1120
      ---------+---------+---------+---------+---------+---------+---------+
 1050 CCAGAATTTCATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAAATACTTTATAGACAAGCA
L1.3splice790
 1038 ...................................................................... AC093006
 1045 ......................G.....................................C......... AL031985
 1045 ............................................................C......... AL137022
 1029 ............G.........................................C.....C......... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1130      1140      1150      1160      1170      1180      1190
      ---------+---------+---------+---------+---------+---------+---------+
 1120 AATGTTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTCCTGAAGGAAGCGCTAAACATGGAA
L1.3splice790
 1108 ..........................C..............................A............ AC093006
 1115 ....C......................A.......................................... AL031985
 1115 ....C....................................................A............ AL137022
 1099 ....C................................................................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1200      1210      1220      1230      1240      1250      1260
      ---------+---------+---------+---------+---------+---------+---------+
 1190 AGGAACAACCGGTACCAGCCGCTGCAAAATCATGCCAAAATGTAAAGACCATCGAGACTAGGAAGAAACT
L1.3splice790
 1178 ...................................................................... AC093006
 1185 ..........C.........A................................................. AL031985
 1185 ...................................................................... AL137022
 1169 ...................T.................................................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1270      1280      1290      1300      1310      1320      1330
      ---------+---------+---------+---------+---------+---------+---------+
 1260 GCATCAACTAATGAGCAAAATCACCAGCTAACATCATAATGACAGGATCAAATTCACACATAACAATATT
L1.3splice790
 1248 ...................................................................... AC093006
 1255 ...........C.......................................................... AL031985
 1255 ...........C.......................................................... AL137022
 1239 ...........C.......................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1340      1350      1360      1370      1380      1390      1400
      ---------+---------+---------+---------+---------+---------+---------+
 1330 AACTTTAAATATAAATGGACTAAATTCTGCAATTAAAAGACACAGACTGGCAAGTTGGATAAAGAGTCAA
L1.3splice790
 1318 ...................................................................... AC093006
 1325 ..........G..............G..C........................A................ AL031985
 1325 ..........G..............G..C........................A................ AL137022
 1309 ..........G.................C........................................T AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1410      1420      1430      1440      1450      1460      1470
      ---------+---------+---------+---------+---------+---------+---------+
 1400 GACCCATCAGTGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATAAAAG
L1.3splice790
 1388 ...................................................................... AC093006
 1395 ...................................................................... AL031985
 1395 ...................................................................... AL137022
 1379 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1480      1490      1500      1510      1520      1530      1540
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      ---------+---------+---------+---------+---------+---------+---------+
 1470 GATGGAGGAAGATCTACCAAGCCAATGGAAAACAAAAAAAGGCAGGGGTTGCAATCCTAGTCTCTGATAA
L1.3splice790
 1458 ...................................................................... AC093006
 1465 ......................A............................................... AL031985
 1465 ......................A............................................... AL137022
 1449 ......................A.........................................G..... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1550      1560      1570      1580      1590      1600      1610
      ---------+---------+---------+---------+---------+---------+---------+
 1540 AACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCATTACATAATGGTAAAGGGATCAATT
L1.3splice790
 1528 ...................................................................... AC093006
 1535 ...................................................................... AL031985
 1535 ...................................----..T............................ AL137022
 1519 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1620      1630      1640      1650      1660      1670      1680
      ---------+---------+---------+---------+---------+---------+---------+
 1610 CAACAAGAGGAGCTAACTATCCTAAATATTTATGCACCCAATACAGGAGCACCCAGATTCATAAAGCAAG
L1.3splice790
 1598 ...................................................................... AC093006
 1605 ........A....................A........................................ AL031985
 1601 ........A....................A........................................ AL137022
 1589 .............................A........................................ AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1690      1700      1710      1720      1730      1740      1750
      ---------+---------+---------+---------+---------+---------+---------+
 1680 TCCTCAGTGACCTACAAAGAGACTTAGACTCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTC
L1.3splice790
 1668 ...................................................................... AC093006
 1675 ....G.................................A............................... AL031985
 1671 ....G................................................................. AL137022
 1659 ....G................................................................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1760      1770      1780      1790      1800      1810      1820
      ---------+---------+---------+---------+---------+---------+---------+
 1750 AACATTAGACAGATCAACGAGACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAA
L1.3splice790
 1738 ..................A................................................... AC093006
 1745 ...................................................................... AL031985
 1741 .................T........................................A........... AL137022
 1729 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1830      1840      1850      1860      1870      1880      1890
      ---------+---------+---------+---------+---------+---------+---------+
 1820 GCAGACCTAATAGACATCTACAGAACTCTCCACCCCAAATCAACAGAATATACCTTTTTTTCAGCACCAC
L1.3splice790
 1808 .....................................................A................ AC093006
 1815 ..G..................................................A................ AL031985
 1811 .TG..................................................AC............... AL137022
 1799 ..G..................................................A................ AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1900      1910      1920      1930      1940      1950      1960
      ---------+---------+---------+---------+---------+---------+---------+
 1890 ACCACACCTATTCCAAAATTGACCACATAGTTGGAAGTAAAGCTCTCCTCAGCAAATGTAAAAGAACAGA
L1.3splice790
 1878 ...................................................................... AC093006
 1885 .............................C........................................ AL031985
 1881 ...................................................................... AL137022
 1869 .........................................A............................ AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               1970      1980      1990      2000      2010      2020      2030
      ---------+---------+---------+---------+---------+---------+---------+
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 1960 AATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACTAGAACTCAGGATTAAGAATCTCACTCAA
L1.3splice790
 1948 ...................................................................... AC093006
 1955 ...................................................................... AL031985
 1951 ...................................................................... AL137022
 1939 .........................................................T............ AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2040      2050      2060      2070      2080      2090      2100
      ---------+---------+---------+---------+---------+---------+---------+
 2030 AGCCGCTCAACTACATGGAAACTGAACAACCTGCTCCTGAATGACTACTGGGTACATAACGAAATGAAGG
L1.3splice790
 2018 ...................................................................... AC093006
 2025 ...................................................................... AL031985
 2021 ..........A..................................C.................T...... AL137022
 2009 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2110      2120      2130      2140      2150      2160      2170
      ---------+---------+---------+---------+---------+---------+---------+
 2100 CAGAAATAAAGATGTTCTTTGAAACCAACGAGAACAAAGACACCACATACCAGAATCTCTGGGACGCATT
L1.3splice790
 2088 ...................................................................... AC093006
 2095 ...........................................A....................T..... AL031985
 2091 ..........C................................A.....................A.... AL137022
 2079 ....C......................................A.......................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2180      2190      2200      2210      2220      2230      2240
      ---------+---------+---------+---------+---------+---------+---------+
 2170 CAAAGCAGTGTGTAGAGGGAAATTTATAGCACTAAATGCCTACAAGAGAAAGCAGGAAAGATCCAAAATT
L1.3splice790
 2158 ...........................................C.......................... AC093006
 2165 .........................T..............C............................. AL031985
 2161 .......C...........C....................C............................. AL137022
 2149 .........T.......................G......C............................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2250      2260      2270      2280      2290      2300      2310
      ---------+---------+---------+---------+---------+---------+---------+
 2240 GACACCCTAACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAGCAGAAGGC
L1.3splice790
 2228 ...................................................................... AC093006
 2235 ..................................-................................... AL031985
 2231 ...................................................................... AL137022
 2219 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2320      2330      2340      2350      2360      2370      2380
      ---------+---------+---------+---------+---------+---------+---------+
 2310 AAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTTCAAAAAATCAATGA
L1.3splice790
 2298 ...................................................................... AC093006
 2304 ................................A.................................G... AL031985
 2301 .........................................G............................ AL137022
 2289 ......................................C.....T......................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2390      2400      2410      2420      2430      2440      2450
      ---------+---------+---------+---------+---------+---------+---------+
 2380 ATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAGACCGCTAGCAAGACTAATAAAGAAAAAA
L1.3splice790
 2368 ...................................................................... AC093006
 2374 ...................................................................... AL031985
 2371 ...................................C...............C.................. AL137022
 2359 .............................................A........................ AP000560

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               2460      2470      2480      2490      2500      2510      2520
      ---------+---------+---------+---------+---------+---------+---------+
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 2450 AGAGAGAAGAATCAAATAGACACAATAAAAAATGATAAAGGGGATATCACCACCGATCCCACAGAAATAC
L1.3splice790
 2438 ...................................................................... AC093006
 2444 ..............................................G....................... AL031985
 2441 ...............................T........A.............A............... AL137022
 2429 ......................................................A............... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2530      2540      2550      2560      2570      2580      2590
      ---------+---------+---------+---------+---------+---------+---------+
 2520 AAACTACCATCAGAGAATACTACAAACACCTCTACGCAAATAAACTAGAAAATCTAGAAGAAATGGATAC
L1.3splice790
 2508 ..................................T....................G.......C...... AC093006
 2514 .....................................................................A AL031985
 2511 .............................T.......................................A AL137022
 2499 ...................................A.................................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2600      2610      2620      2630      2640      2650      2660
      ---------+---------+---------+---------+---------+---------+---------+
 2590 ATTCCTCGACACATACACTCTCCCAAGACTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACA
L1.3splice790
 2578 ..........................................................C........... AC093006
 2584 ......................................................T............... AL031985
 2581 ......T......................C........................................ AL137022
 2569 ............................................C......................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2670      2680      2690      2700      2710      2720      2730
      ---------+---------+---------+---------+---------+---------+---------+
 2660 GGCTCTGAAATTGTGGCAATAATCAATAGTTTACCAACCAAAAAGAGTCCAGGACCAGATGGATTCACAG
L1.3splice790
 2648 ...................................................................... AC093006
 2654 ..AG.........................C.........................T.............. AL031985
 2651 ..AG...........A...................................................... AL137022
 2639 ..AG.................................................................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2740      2750      2760      2770      2780      2790      2800
      ---------+---------+---------+---------+---------+---------+---------+
 2730 CCGAATTCTACCAGAGGTACATGGAGGAACTGGTACCATTCCTTCTGAAACTATTCCAATCAATAGAAAA
L1.3splice790
 2718 .....................A................................................ AC093006
 2724 .....................A................................................ AL031985
 2721 .....................A................................................ AL137022
 2709 .....................AA............................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2810      2820      2830      2840      2850      2860      2870
      ---------+---------+---------+---------+---------+---------+---------+
 2800 AGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCATTCTGATACCAAAGCCGGGCAGAGACACA
L1.3splice790
 2788 ...................................................................... AC093006
 2794 ...................................................................... AL031985
 2791 .............T..........................................T............. AL137022
 2779 .........................G............................................ AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2880      2890      2900      2910      2920      2930      2940
      ---------+---------+---------+---------+---------+---------+---------+
 2870 ACCAAAAAAGAGAATTTTAGACCAATATCCTTGATGAACATTGATGCAAAAATCCTCAATAAAATACTGG
L1.3splice790
 2858 ...................................................................... AC093006
 2864 ..A................................................................... AL031985
 2861 ...................................................................... AL137022
 2849 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               2950      2960      2970      2980      2990      3000      3010
      ---------+---------+---------+---------+---------+---------+---------+
```

```
 2940 CAAACCGAATCCAGCAGCACATCAAAAAGCTTATCCACCATGATCAAGTGGGCTTCATCCCTGGGATGCA
L1.3splice790
 2928 ...................................................................... AC093006
 2934 ...................................................................... AL031985
 2931 ....A.....................C.....................A..................... AL137022
 2919 ......A............................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3020      3030      3040      3050      3060      3070      3080
      ---------+---------+---------+---------+---------+---------+---------+
 3010 AGGCTGGTTCAATATACGCAAATCAATAAATGTAATCCAGCATATAAACAGAGCCAAAGACAAAAACCAC
L1.3splice790
 2998 ...................................................................... AC093006
 3004 ....................................................A................. AL031985
 3001 ...................................................................... AL137022
 2989 ...............C...................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3090      3100      3110      3120      3130      3140      3150
      ---------+---------+---------+---------+---------+---------+---------+
 3080 ATGATTATCTCAATAGATGCAGAAAAAGCCTTTGACAAAATTCAACAACCCTTCATGCTAAAAACTCTCA
L1.3splice790
 3068 ...................................................................... AC093006
 3074 ...................................................................... AL031985
 3071 ...................................................................... AL137022
 3059 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3160      3170      3180      3190      3200      3210      3220
      ---------+---------+---------+---------+---------+---------+---------+
 3150 ATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGACAAACCCACAGCCAATAT
L1.3splice790
 3138 ...................................................................... AC093006
 3144 ............................................................T......... AL031985
 3141 .................................C.................................... AL137022
 3129 ............C......................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3230      3240      3250      3260      3270      3280      3290
      ---------+---------+---------+---------+---------+---------+---------+
 3220 CATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACCGGCACAAGACAGGGATGCCCTCTCTCA
L1.3splice790
 3208 ..........................................T........................... AC093006
 3214 ..........................................T........................... AL031985
 3211 ..........................................T........................... AL137022
 3199 ..........................................T........................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3300      3310      3320      3330      3340      3350      3360
      ---------+---------+---------+---------+---------+---------+---------+
 3290 CCGCTCCTATTCAACATAGTGTTGGAAGTTCTGGCCAGGGCAATCAGGCAGGAGAAGGAAATAAAGGGTA
L1.3splice790
 3278 ...................................................................... AC093006
 3284 ..A.........................................T......................... AL031985
 3281 ..A.........................................T......................... AL137022
 3269 ..A..............................................................A.... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3370      3380      3390      3400      3410      3420      3430
      ---------+---------+---------+---------+---------+---------+---------+
 3360 TTCAATTAGGAAAAGAGGAAGTCAAATTGTCCCTGTTTGCAGACGACATGATTGTATATCTAGAAAACCC
L1.3splice790
 3348 .......................................................T.............. AC093006
 3354 ...........................................T.......................... AL031985
 3351 ...................................................................... AL137022
 3339 .......................................................T.............. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3440      3450      3460      3470      3480      3490      3500
      ---------+---------+---------+---------+---------+---------+---------+
```

```
 3430 CATCGTCTCAGCCCAAAATCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAAT
L1.3splice790
 3418 ...................................................................... AC093006
 3424 ...T.................................................................. AL031985
 3421 ...T.....................................................G............ AL137022
 3409 ...T.................................................................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3510      3520      3530      3540      3550      3560      3570
      ---------+---------+---------+---------+---------+---------+---------+
 3500 GTACAAAAATCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGGGTGAACTCC
L1.3splice790
 3488 ............................................................A......... AC093006
 3494 ............................................................A......... AL031985
 3491 .......................................A....................A......... AL137022
 3479 ............................................................A......... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3580      3590      3600      3610      3620      3630      3640
      ---------+---------+---------+---------+---------+---------+---------+
 3570 CATTCGTAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGATGTGAAGGACCTCTT
L1.3splice790
 3558 .....AC............................................................... AC093006
 3564 .....AC............................................................... AL031985
 3561 .....AC............................................................... AL137022
 3549 .....AC........................T...................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3650      3660      3670      3680      3690      3700      3710
      ---------+---------+---------+---------+---------+---------+---------+
 3640 CAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGACACAAACAAATGGAAGAACATTCCATGC
L1.3splice790
 3628 ..........................................G........................... AC093006
 3634 ..........................................T........................... AL031985
 3631 ...........................C..............T........................... AL137022
 3619 ..........C...............................T........................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3720      3730      3740      3750      3760      3770      3780
      ---------+---------+---------+---------+---------+---------+---------+
 3710 TCATGGGTAGGAAGAATCAATATCGTGAAAATGGCCATACTGCCCAAGGTAATTTACAGATTCAATGCCA
L1.3splice790
 3698 ...................................................................... AC093006
 3704 .......................T.............................................. AL031985
 3701 ...................................................................... AL137022
 3689 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3790      3800      3810      3820      3830      3840      3850
      ---------+---------+---------+---------+---------+---------+---------+
 3780 TCCCCATCAAGCTACCAATGACTTTCTTCACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGA----
L1.3splice790
 3768 ..................................................................---- AC093006
 3774 ..................................................................---- AL031985
 3771 ..................................................................---- AL137022
 3759 ..................................................................CGGC AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3860      3870      3880      3890      3900      3910      3920
      ---------+---------+---------+---------+---------+---------+---------+
 3846 ----------------------------------------------------------------------
L1.3splice790
 3834 ---------------------------------------------------------------------- AC093006
 3840 ---------------------------------------------------------------------- AL031985
 3837 ---------------------------------------------------------------------- AL137022
 3829 CGGGCGCGGTGGCTCACGCCTGTAATCCCAGCACTTTGGGAGGCCAAGGTGGGCGGATCACGAGGTCAGG AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               3930      3940      3950      3960      3970      3980      3990
      ---------+---------+---------+---------+---------+---------+---------+
```

```
 3846 ----------------------------------------------------------------------
L1.3splice790
 3834 ---------------------------------------------------------------------- AC093006
 3840 ---------------------------------------------------------------------- AL031985
 3837 ---------------------------------------------------------------------- AL137022
 3899 AGATCGAGACCATCCCCGCTAAAACAGTGAAACCCCGTCTCTACTAAAAATACAAAAAAAAATTAGCCGG AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4000      4010      4020      4030      4040      4050      4060
      ---------+---------+---------+---------+---------+---------+---------+
 3846 ----------------------------------------------------------------------
L1.3splice790
 3834 ---------------------------------------------------------------------- AC093006
 3840 ---------------------------------------------------------------------- AL031985
 3837 ---------------------------------------------------------------------- AL137022
 3969 GCGTAGTGGCGGGCGCCTGTAGTCCCAGCTACTTGGGAGGCTGAGGCAGGAGAATGGCGTGAAACCGGGA AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4070      4080      4090      4100      4110      4120      4130
      ---------+---------+---------+---------+---------+---------+---------+
 3846 ----------------------------------------------------------------------
L1.3splice790
 3834 ---------------------------------------------------------------------- AC093006
 3840 ---------------------------------------------------------------------- AL031985
 3837 ---------------------------------------------------------------------- AL137022
 4039 GGCGGAGCTTGCAGTGAGCCGAGATCCCGCCACTGCACTCCAGCCTGGGTGACAGAGCGAGACTCCGTCT AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4140      4150      4160      4170      4180      4190      4200
      ---------+---------+---------+---------+---------+---------+---------+
 3846 --------------------------ACCAAAAAAGAGCCCGCATTGCCAAGTCAATCCTAAGCCAAAAG
L1.3splice790
 3834 --------------------------............................................ AC093006
 3840 --------------------------...............A...C........................ AL031985
 3837 --------------------------...................CA....................... AL137022
 4109 CAAAAAAAAAAAAAAGTTCATATGGA...................C.......................A AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4210      4220      4230      4240      4250      4260      4270
      ---------+---------+---------+---------+---------+---------+---------+
 3890 AACAAAGCTGGAGGCATCACACTACCTGACTTCAAACTATACTACAAGGCTACAGTAACCAAAACAGCAT
L1.3splice790
 3878 ...................................................................... AC093006
 3884 ......................................T...............A............... AL031985
 3881 ...................................................................... AL137022
 4179 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4280      4290      4300      4310      4320      4330      4340
      ---------+---------+---------+---------+---------+---------+---------+
 3960 GGTACTGGTACCAAAACAGAGATATAGATCAATGGAACAGAACAGAGCCCTCAGAAATAATGCCGCATAT
L1.3splice790
 3948 ...................................................................... AC093006
 3954 .............................................................C.......C AL031985
 3951 ...........................C.................................C........ AL137022
 4249 .............................................................C.......C AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4350      4360      4370      4380      4390      4400      4410
      ---------+---------+---------+---------+---------+---------+---------+
 4030 CTACAACTATCTGATCTTTGACAAACCTGAGAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAA
L1.3splice790
 4018 .............................................................G........ AC093006
 4024 ........G...............................A............................. AL031985
 4021 .....................T................................................ AL137022
 4319 .A.................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4420      4430      4440      4450      4460      4470      4480
      ---------+---------+---------+---------+---------+---------+---------+
```

```
 4100 TGGTGCTGGGAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTATACAA
L1.3splice790
 4088 ...................................................................... AC093006
 4094 ...................................................................... AL031985
 4091 ...................................................................... AL137022
 4389 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4490      4500      4510      4520      4530      4540      4550
      ---------+---------+---------+---------+---------+---------+---------+
 4170 AAATCAATTCAAGATGGATTAAAGATTTAAACGTTAAACCTAAAACCATAAAAACCCTAGAAGAAAACCT
L1.3splice790
 4158 ...................................................................... AC093006
 4164 ....................................G................................. AL031985
 4161 ...............................G....G................................. AL137022
 4459 ....................................G................................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4560      4570      4580      4590      4600      4610      4620
      ---------+---------+---------+---------+---------+---------+---------+
 4240 AGGCATTACCATTCAGGACATAGGCGTGGGCAAGGACTTCATGTCCAAAACACCAAAAGCAATGGCAACA
L1.3splice790
 4228 ...................................................................... AC093006
 4234 ................A........A............................................ AL031985
 4231 ....................C....A.....G...................................... AL137022
 4529 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4630      4640      4650      4660      4670      4680      4690
      ---------+---------+---------+---------+---------+---------+---------+
 4310 AAAGACAAAATTGACAAATGGGATCTAATTAAACTAAAGAGCTTCTGCACAGCAAAAGAAACTACCATCA
L1.3splice790
 4298 ...................................................................... AC093006
 4304 ...................................................................... AL031985
 4301 ....C................................................................. AL137022
 4599 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4700      4710      4720      4730      4740      4750      4760
      ---------+---------+---------+---------+---------+---------+---------+
 4380 GAGTGAACAGGCAACCTACAACATGGGAGAAAATTTTCGCAACCTACTCATCTGACAAAGGGCTAATATC
L1.3splice790
 4368 .....................................T................................ AC093006
 4374 .....................A................................................ AL031985
 4371 .....................A................................................ AL137022
 4669 ...............AC....A................................................ AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4770      4780      4790      4800      4810      4820      4830
      ---------+---------+---------+---------+---------+---------+---------+
 4450 CAGAATCTACAATGAACTTAAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAG
L1.3splice790
 4438 ..................C................................................... AC093006
 4444 ..................C..C............................................A... AL031985
 4441 ..................C....................................C.............. AL137022
 4739 ..................C...............................................A... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4840      4850      4860      4870      4880      4890      4900
      ---------+---------+---------+---------+---------+---------+---------+
 4520 GACATGAACAGACACTTCTCAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAGAAATGCTCATCAT
L1.3splice790
 4508 ...................................................................... AC093006
 4514 ........................................................A............. AL031985
 4511 ........................................................A............. AL137022
 4809 ..T.....................................................A.........C... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4910      4920      4930      4940      4950      4960      4970
      ---------+---------+---------+---------+---------+---------+---------+
```

```
 4590 CACTGGCCATCAGAGAAATGCAAATCAAAACCACTATGAGATATCATCTCACACCAGTTAGAATGGCAAT
L1.3splice790
 4578 ...................................................................... AC093006
 4584 ..................................A........C.......................... AL031985
 4581 ..................................A........C.......................... AL137022
 4879 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               4980      4990      5000      5010      5020      5030      5040
      ---------+---------+---------+---------+---------+---------+---------+
 4660 CATTAAAAAGTCAGGAAACAACAGGTGCTGGAGAGGATGCGGAGAAATAGGAACACTTTTACACTGTTGG
L1.3splice790
 4648 ...................................................................... AC093006
 4654 .......................................T.......................T...... AL031985
 4651 .......................................T.............................. AL137022
 4949 .......................................T.............................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               5050      5060      5070      5080      5090      5100      5110
      ---------+---------+---------+---------+---------+---------+---------+
 4730 TGGGACTGTAAACTAGTTCAACCATTGTGGAAGTCAGTGTGGCGATTCCTCAGGGATCTAGAACTAGAAA
L1.3splice790
 4718 ...................................................................... AC093006
 4724 ...................................................................... AL031985
 4721 ...................................................................... AL137022
 5019 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               5120      5130      5140      5150      5160      5170      5180
      ---------+---------+---------+---------+---------+---------+---------+
 4800 TACCATTTGACCCAGCCATCCCATTACTGGGTATATACCCAAATGAGTATAAATCATGCTGCTATAAAGA
L1.3splice790
 4788 ...................................................................... AC093006
 4794 ..............................................C....................... AL031985
 4791 ....................T......................G..C....................... AL137022
 5089 ......................................T....G..C....................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               5190      5200      5210      5220      5230      5240      5250
      ---------+---------+---------+---------+---------+---------+---------+
 4870 CACATGCACACGTATGTTTATTGCGGCACTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCA
L1.3splice790
 4858 ...................................................................... AC093006
 4864 ............................T......................................... AL031985
 4861 ...........A................T......................................... AL137022
 5159 ....................C.......T......................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               5260      5270      5280      5290      5300      5310      5320
      ---------+---------+---------+---------+---------+---------+---------+
 4940 ACAATGATAGACTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCATAAAAAATG
L1.3splice790
 4928 ...................................................................... AC093006
 4934 ...................................................................... AL031985
 4931 ...................................................................... AL137022
 5229 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               5330      5340      5350      5360      5370      5380      5390
      ---------+---------+---------+---------+---------+---------+---------+
 5010 ATGAGTTCATATCCTTTGTAGGGACATGGATGAAATTGGAAACCATCATTCTCAGTAAACTATCGCAAGA
L1.3splice790
 4998 ...................................................................... AC093006
 5004 ..........G...............................T.........T...........A..... AL031985
 5001 ..........G...............................T.....................A..... AL137022
 5299 ..........G........................C.................................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               5400      5410      5420      5430      5440      5450      5460
      ---------+---------+---------+---------+---------+---------+---------+
```

```
 5080 ACAAAAAACCAAACACCGCATATTCTCACTCATAGGTGGGAATTGAACAATGAGATCACATGGACACAGG
L1.3splice790
 5068 ...................................................................... AC093006
 5074 ...................................................................... AL031985
 5071 .........G..........A................................................. AL137022
 5369 ...................................................................... AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               5470      5480      5490      5500      5510      5520      5530
      ---------+---------+---------+---------+---------+---------+---------+
 5150 AAGGGGAATATCACACTCTGGGGACTGTGGTGGGGTCGGGGGAGGGGGGAGGGATAGCATTGGGAGATAT
L1.3splice790
 5138 ...................................................................... AC093006
 5144 ....................................A................................. AL031985
 5141 .G..................................G.........A....................... AL137022
 5439 .......C............................G................................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               5540      5550      5560      5570      5580      5590      5600
      ---------+---------+---------+---------+---------+---------+---------+
 5220 ACCTAATGCTAGATGACACATTAGTGGGTGCAGCGCACCAGCATGGCACATGTATACATATGTAACTAAC
L1.3splice790
 5208 ...................................................................... AC093006
 5214 .................GAG.................................................. AL031985
 5211 .................GAG.................................................. AL137022
 5509 .................GAG.................................................. AP000560

      ---------+---------+---------+---------+---------+---------+---------+
               5610      5620      5630      5640      5650      5660      5670
      ---------+---------+---------+---------+---------+---------+---------+
 5290 CTGCACAATGTGCACATGTACCCTAAAACTTAGAGTATAATAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
L1.3splice790
 5278 .................................................................TGCC. AC093006
 5284 ................................A........................G....G..----. AL031985
 5281 ................................A...................GG.TTTCT.CTTCT---. AL137022
 5579 ................................A.............T...T...T....G..TTGC---C AP000560
```

Supplemental figure 3. Alignment of the spliced L1 elements identified in the human genome. Sequences of the full-length human L1 elements that underwent splicing (SD and SA sites at positions 97 and 790 L1.3 sequence respectively) and retrotransposed were extracted from the human genome and aligned by ClustalW method against L1.3 sequence spliced in the same manner (L1.3 spliced790). Nucleotides that do not match L1.3 sequence are shown. Accession numbers corresponding to each contig containing these sequences are shown on the right. AC093006 L1 belongs to the Ta family, the rest of the elements are non-Ta (Boissinot *et.al.* Mol Biol Evol. 2000 Jun;17(6):915-28)

```
    ---------+---------+---------+---------+---------+---------+---------+
             10        20        30        40        50        60        70
    ---------+---------+---------+---------+---------+---------+---------+
  1 GGGGGAGGAGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGCGACGCAGAAG L1.3spliced
  1 ------..............................T....C............................ AC079018
  1 .....................................................T.........A...... AC093115
  1 .....................................C......................A......... AF188024
  1 ...................................................................... AL133472
  1 --..............C..................T...........................A...... AL138900
  1 -..................................................................... AL163952
  1 ------..........C....................A................A....T..T....... AL353590
  1 -------.............................T.................A....T.......... AL807813
  1 -------.............................T.................A............... AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             80        90        100       110       120       130       140
    ---------+---------+---------+---------+---------+---------+---------+
 71 ACGG-TGATTTCTGCATTTCCATCTGAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAG L1.3spliced
 65 ..A.G..............AT..A.......T....C.............A................... AC079018
 71 ....G................................................................. AC093115
 71 ....G.............................................T..............C.... AF188024
 71 ....G..........................T..................T..............C.... AL133472
 69 .T..G............................................................CA... AL138900
 70 ....G................................................................. AL163952
 65 ....G.................A..........T..C.............T................... AL353590
 64 .T..G..........................--...........A.....T................... AL807813
 64 .T..G.........A......................C................................ AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             150       160       170       180       190       200       210
    ---------+---------+---------+---------+---------+---------+---------+
140 AATGATTTTGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGGGAGGACATTC L1.3spliced
135 ..C..C.........T...............C............C.....C.......A......A.... AC079018
141 ...................................................................... AC093115
141 .....C...........................G................CA.............A.... AF188024
141 .....C.........T.....A.G...A......................CA.....TA......A.... AL133472
139 .....C...................---.....T.............T...................... AL138900
140 .....C................................................................ AL163952
135 ...A.C.........T............................C..A..C......AA......AG... AL353590
132 .....C.........T....................T.......C...C.........A......A.... AL807813
134 .....C.--......T............................C.............A......A.... AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             220       230       240       250       260       270       280
    ---------+---------+---------+---------+---------+---------+---------+
210 AAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGTATAACTAGAATAACCAATAC L1.3spliced
205 .......C............A......G.........A.....C.....G..................G. AC079018
211 ...T.................................................................. AC093115
211 .............................A.......A..........A..................... AF188024
211 ........CA...............................A.C.......................... AL133472
206 ...................................C.................................. AL138900
210 ...................................................................... AL163952
205 G....C.T............A................A.....T.....GC..G..............G. AL353590
202 ..........T.........A......................T............G......A...... AL807813
202 ....................A......................C....A......C.............. AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             290       300       310       320       330       340       350
    ---------+---------+---------+---------+---------+---------+---------+
280 AGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAGGCTCGAGAACTACGTGAAGAATGCAGAAGC L1.3spliced
275 ........C...................A.....G.................T................. AC079018
281 ...................................................................... AC093115
281 ...................................................................... AF188024
281 ..................................G.....T..T...........C.............. AL133472
276 ...................T........................A......................... AL138900
280 ............................................A......................... AL163952
275 ........C.........C.......................AT........T....C.......C.... AL353590
272 ...........G....................C.GG........A......................... AL807813
272 ..................................G................................... AC093808

    ---------+---------+---------+---------+---------+---------+---------+
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             360       370       380       390       400       410       420
    ---------+---------+---------+---------+---------+---------+---------+
350 CTCAGGAGCCGATGCGATCAACTGGAAGAAAGGGTATCAGCAATGGAAGATGAAATGAATGAAATGAAGC L1.3spliced
345 .....A....A.............................TG...C....CT.................. AC079018
351 ...................................................................... AC093115
351 ..............A.......G............................................... AF188024
351 ........A.....T.........................TG............................ AL133472
346 ..................G.....................TG...........G................ AL138900
350 .....................................................................T AL163952
345 .....T....A..T..........................TG.........C..G..............- AL353590
342 ........TT........................C....ATG............................ AL807813
342 .........T.....A........................TG...........................T AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             430       440       450       460       470       480       490
    ---------+---------+---------+---------+---------+---------+---------+
420 GAGAAGGGAAGTTTAGAGAAAAAA-GAATAAAAAGAAATGAGCAAAGCCTCCAAGAAATATGGACTATG L1.3spliced
415 ........................-................A.....T...................... AC079018
421 ........................-......................................A...... AC093115
421 ........................-.................................C.C......... AF188024
421 ........................-.............C..A.....A...................... AL133472
416 A.......................-.............C............................... AL138900
420 ...........G............-............................................. AL163952
414 ---...A.................-................A............................ AL353590
412 A.......................A.G...........C..AT.................A......... AL807813
412 ........................-.............C..A............................ AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             500       510       520       530       540       550       560
    ---------+---------+---------+---------+---------+---------+---------+
489 TGAAAAGACCAAATCTACGTCTGATTGGTGTACCTGAAAGTGATGTGGAGAATGGAACCAAGTTGGAAAA L1.3spliced
484 ..................A.....C..................C.G.................G...... AC079018
490 ..........................T..................C........................ AC093115
490 .................A.........................C.G........................ AF188024
490 ................G.-........................C.G........................ AL133472
485 .................T.........................C.-...........A............ AL138900
489 ............................................AG........................ AL163952
480 ..................A........................C.G........................ AL353590
482 ............G................................G........A............... AL807813
481 ...........................................C.G......C......C.......... AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             570       580       590       600       610       620       630
    ---------+---------+---------+---------+---------+---------+---------+
559 CACTCTGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAGATTCAGGAA L1.3spliced
554 .......................................................A.............. AC079018
560 .............G........................................................ AC093115
560 .......................................................A.............. AF188024
559 .......................................................A.............. AL133472
554 ...................................................T..TA.............. AL138900
559 ...................................................................... AL163952
550 .......G......................................T........A.............. AL353590
552 .G...........................C.........................A.............. AL807813
551 ...................................................................... AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             640       650       660       670       680       690       700
    ---------+---------+---------+---------+---------+---------+---------+
629 ATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGACACATAATTGTCAGATTCACCA L1.3spliced
624 ..........T......................................................T.... AC079018
630 ..........T.........................A................................. AC093115
630 ...................................................................... AF188024
629 ...........A.......................................................... AL133472
624 .........................T............................................ AL138900
629 ...................................................G.................. AL163952
620 ..........T...................................A....................... AL353590
622 ..........T..................A....................--.................. AL807813
621 .....A................................................................ AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             710       720       730       740       750       760       770
```

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    ---------+---------+---------+---------+---------+---------+---------+
699 AAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGAAAGGTCGGGTTACCCTCAAAGGAAAGCC L1.3spliced
694 ................................................A........A......G..... AC079018
700 ................................................................G..... AC093115
700 ................................................................G..... AF188024
699 ................................................A........A......G..... AL133472
694 .................................................A..............G..... AL138900
699 ................................................................G..... AL163952
690 ....A...............G....................................A......G..... AL353590
690 ..................................................A......AA.....G..... AL807813
691 ................................................A........A......G..... AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             780       790       800       810       820       830       840
    ---------+---------+---------+---------+---------+---------+---------+
769 CATCAGACTAACAGTGGATCTCTCGGCAGAAACCCTACAAGCCAGAAGAGAGTGGGGGCCAATATTCAAC L1.3spliced
764 ..............C..................T.................C...C.............. AC079018
770 ..............C....................................................... AC093115
770 ..............CA........A........T.................................... AF188024
769 ..A....................T.........T.................................... AL133472
764 ..............C........T..G......T..G................................. AL138900
769 ..............C....................................................... AL163952
760 ...........G..C.......CT.........TG................................... AL353590
760 ..............CAA.......A........T....................CA.............. AL807813
761 ..............CT.................T.................................... AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             850       860       870       880       890       900       910
    ---------+---------+---------+---------+---------+---------+---------+
839 ATTCTTAAAGAAAAGAATTTTCAACCCAGAATTTCATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAG L1.3spliced
834 ...................................................................... AC079018
840 ...................................................................... AC093115
840 ...................................................................... AF188024
839 ...............................................................A...... AL133472
834 ........................T............................................. AL138900
839 ...................................................................... AL163952
830 .....................................G................................ AL353590
830 .....................................G................................ AL807813
831 .C........................T..........................A................ AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             920       930       940       950       960       970       980
    ---------+---------+---------+---------+---------+---------+---------+
909 AAATAAAATACTTTATAGACAAGCAAATGTTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCT L1.3spliced
904 ...C...........C.............C..................T..................... AC079018
910 .....C.........C...........G.C...................A.................... AC093115
910 ..........T....C.............C.............................T.......... AF188024
909 ...............C.............C........................................ AL133472
904 ...........C...C.............C...............................G........ AL138900
909 .............C.C.............C...................T.................... AL163952
900 .........C.....C.............C........................A.............T. AL353590
900 ...............C.................C......................A............. AL807813
901 .........C.....C.............C.............................T..C....... AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             990      1000      1010      1020      1030      1040      1050
    ---------+---------+---------+---------+---------+---------+---------+
979 CCTGAAGGAAGCGCTAAACATGGAAAGGAACAACCGGTACCAGCCGCTGCAAAATCA--------TGCCA L1.3spliced
974 ............A................................A......T.A..--------..... AC079018
980 .........................................................--------..... AC093115
980 ...................................A.....................--------..... AF188024
979 ............A........................C...................--------..T.. AL133472
974 .............................................A...........--------..... AL138900
979 ............................................T............--------..... AL163952
970 ............A.....................T..........A........A..--------..... AL353590
970 ............A........C.......................A........AA.AAAAAAAA..... AL807813
971 ............A.....................T..........A...........--------..... AC093808

    ---------+---------+---------+---------+---------+---------+---------+
             1060      1070      1080      1090      1100      1110      1120
    ---------+---------+---------+---------+---------+---------+---------+
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1041 AAATGTAAAGACCATCGAGACTAGGAAGAAACTGCATCAACTAATGAGCAAAATCACCAGCTAACATCAT L1.3spliced
1036 ..C..........G..A..G......................G...........A..............C AC079018
1042 ........C...................................C......................... AC093115
1042 ..................A........T..........................A............... AF188024
1041 ...............T............................C.........A....A.......... AL133472
1036 ............................................C.........A............... AL138900
1041 ..........................................G.C......................... AL163952
1032 ..T................G..................................A.............G. AL353590
1040 ..T.........A...T..G........................C...G.....A.....A......... AL807813
1033 ..T................G...A....................C.........A............... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1130      1140      1150      1160      1170      1180      1190
     ---------+---------+---------+---------+---------+---------+---------+
1111 AATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATATAAATGGACTAAATTCTGCAATTAAA L1.3spliced
1106 .....G....C.................T..............G.......G.C..G.G..C........ AC079018
1112 ...........................................G.................C........ AC093115
1112 ...........................................G..............G..C........ AF188024
1111 ....................................G......G..............G..C........ AL133472
1106 ...........................................G..............G..C........ AL138900
1111 ...........................................G..............G..C........ AL163952
1102 ....................................C.....GG.......G......G..C........ AL353590
1110 ...........................................G..............GA.T........ AL807813
1103 .......................G...................G..............G..C........ AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1200      1210      1220      1230      1240      1250      1260
     ---------+---------+---------+---------+---------+---------+---------+
1181 AGACACAGACTGGCAAGTTGGATAAAGAGTCAAGACCCATCAGTGTGCTGTATTCAGGAAACCCATCTCA L1.3spliced
1176 ................A...C.......C......................................... AC079018
1182 ..........................................A........................... AC093115
1182 ................A...A................................................. AF188024
1181 ................A.............A............................G.......... AL133472
1176 ................A............................C........................ AL138900
1181 ................A..A.................................................. AL163952
1172 ................A..................................................... AL353590
1180 ................A...........TA.............................G.......... AL807813
1173 ................A..................T.................................. AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1270      1280      1290      1300      1310      1320      1330
     ---------+---------+---------+---------+---------+---------+---------+
1251 CGTGCAGAGACACACATAGGCTCAAAATAAAAGGATGGAGGAAGATCTACCAAGCCAATGGAAAACAAAA L1.3spliced
1246 T..............................G.......................A.............. AC079018
1252 .......................................................A.............. AC093115
1252 .......................................................A.............. AF188024
1251 T......................................................A.............. AL133472
1246 ......................................................AA.............. AL138900
1251 ...............................G.......................A.............. AL163952
1242 T.G.........TG......A..................................A.............. AL353590
1250 ...............................G...A...................T.............. AL807813
1243 .A.....................................................A.............. AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1340      1350      1360      1370      1380      1390      1400
     ---------+---------+---------+---------+---------+---------+---------+
1321 AAA-GGCAGGGGTTGCAATCCTAGTCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAA L1.3spliced
1316 ...-..................................A............................... AC079018
1322 ...-.................................................................. AC093115
1322 ...A..........T....................................................... AF188024
1321 ...-....................................T..G.......................... AL133472
1316 ..G--................................................................. AL138900
1321 ...-.................................................................. AL163952
1312 ...-A.......................................C......................... AL353590
1320 ...A........................................G.....G................... AL807813
1313 ...-.................................................................. AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1410      1420      1430      1440      1450      1460      1470
     ---------+---------+---------+---------+---------+---------+---------+
1390 AGAAGGCCATTACATAATGGTAAAGGGATCAATTCAACAAGAGGAGCTAACTATCCTAAATATTTATGCA L1.3spliced
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1385 ..........................................A..A.................A...... AC079018
1391 ...............................................................A...... AC093115
1392 .............T..C.........................A....................A...... AF188024
1390 ..G....................-..................A....................A...... AL133472
1384 ..................................A.....A.A....................A...... AL138900
1390 ..........................................A....................A...... AL163952
1381 .............G...............A............A....................A...... AL353590
1390 ................................G.........AA...............G...A...... AL807813
1382 .........AG...A...........................A....................A...... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1480      1490      1500      1510      1520      1530      1540
     ---------+---------+---------+---------+---------+---------+---------+
1460 CCCAATACAGGAGCACCCAGATTCATAAAGCAAGTCCTCAGTGACCTACAAAGAGACTTAGACTCCCACA L1.3spliced
1455 ......................................G............................... AC079018
1461 ......................................G........C...................... AC093115
1462 ......................................G.............................T. AF188024
1459 .................A........T...........G....................T.......... AL133472
1454 .........A............................T..G.......C.................... AL138900
1460 ......................................G............................... AL163952
1451 ...........T..........................T..A............................ AL353590
1460 ......................................G.....A...T..................... AL807813
1452 ......................................G.........................T.T... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1550      1560      1570      1580      1590      1600      1610
     ---------+---------+---------+---------+---------+---------+---------+
1530 CATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAACGAGACAGAAAGTCAACAA L1.3spliced
1525 ..A....G........T.................................G.............T..... AC079018
1531 ..................G................................................... AC093115
1532 ..A.............G..................................................... AF188024
1529 ..A...........A....C.................................TC.........T..... AL133472
1524 ...................................................T............T..... AL138900
1530 .................................................G.................... AL163952
1521 ..A...............................................G.............T..... AL353590
1530 ..A................................................T.......C...CT..... AL807813
1522 ..A................................................T............T..... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1620      1630      1640      1650      1660      1670      1680
     ---------+---------+---------+---------+---------+---------+---------+
1600 GGATACCCAGGAATTGAACTCAGCTCTGCACCAAGCAGACCTAATAGACATCTACAGAACTCTCCACCCC L1.3spliced
1595 ...................................................................... AC079018
1601 ...................................AG................................. AC093115
1602 .........A...............T..........G............T.................... AF188024
1599 ....................................G.......A......................... AL133472
1594 .....T.......C......................G................................. AL138900
1600 ...............C...................TG................................. AL163952
1591 .....T.............................TG...............G................. AL353590
1600 .....T.............................TG................................. AL807813
1592 ...............A......A............TG................................T AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1690      1700      1710      1720      1730      1740      1750
     ---------+---------+---------+---------+---------+---------+---------+
1670 AAATCAACAGAATATACCTTTTTTT-CAGCACCACACCACACCTATTCCAAAATTGACCACATAGTTGGA L1.3spliced
1665 ..C..............A..C....-............................................ AC079018
1671 .................A.......-............................................ AC093115
1672 G................A......--......................................C..... AF188024
1669 .................A.......-.......................................G.... AL133472
1664 .................A.......-......................................C..... AL138900
1670 .................A.......-............................................ AL163952
1661 .................A..C....-............................................ AL353590
1670 .................A..C....-............................................ AL807813
1662 .................A.......T.................................T..C....... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1760      1770      1780      1790      1800      1810      1820
     ---------+---------+---------+---------+---------+---------+---------+
1739 AGTAAAGCTCTCCTCAGCAAATGTAAAAGAACAGAAATTATAACAAACTATCTCTCAGACCACAGTGCAA L1.3spliced
1734 ........A........................................G....G..........A.... AC079018
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1740 ...T..A............................................................... AC093115
1740 ...................................................................... AF188024
1738 ..C....T......................................G..G.................... AL133472
1733 ........A...................AG.A..T................................... AL138900
1739 .......................................G.............................. AL163952
1730 ........A.............................A..........G....A............G.. AL353590
1739 .................................C...............G.................... AL807813
1732 .................................................G.................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1830      1840      1850      1860      1870      1880      1890
     ---------+---------+---------+---------+---------+---------+---------+
1809 TCAAACTAGAACTCAGGATTAAGAATCTCACTCAAAGCCGCTCAACTACATGGAAACTGAACAACCTGCT L1.3spliced
1804 ....G....................A..........A................................. AC079018
1810 ...................................................A.................. AC093115
1810 ....................................A.T............................... AF188024
1808 ...........T.............A..........A.............................A... AL133472
1803 ....................................A................................. AL138900
1809 ...................................................................... AL163952
1800 .........................A..........A..A.......T...................... AL353590
1809 .................T.......A..........A.T..G..........................T. AL807813
1802 .........................AG.........A..A.............C................ AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1900      1910      1920      1930      1940      1950      1960
     ---------+---------+---------+---------+---------+---------+---------+
1879 CCTGAATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACCAACGAGAAC L1.3spliced
1874 ...................................................................... AC079018
1880 ...................................................................... AC093115
1880 ..............A..........A.....................................T...... AF188024
1878 ...................................................................... AL133472
1873 ...................................................................... AL138900
1879 ........................T............................................. AL163952
1870 .................C.................................................... AL353590
1879 ...............CA..A.....-....T................................T...... AL807813
1872 ...............................................................T...... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              1970      1980      1990      2000      2010      2020      2030
     ---------+---------+---------+---------+---------+---------+---------+
1949 AAAGACACCACATACCAGAATCTCTGGGACGCATTCAAAGCAGTGTGTAGAGGGAAATTTATAGCACTAA L1.3spliced
1944 ........A.....................A.........T............................. AC079018
1950 ........A............................................................. AC093115
1950 ........A......................T...................................... AF188024
1948 ........A.....................A................C....T................. AL133472
1943 ........A.....................C....................................... AL138900
1949 ........A.......................................G..................... AL163952
1940 ........A.....................A....................................... AL353590
1948 ........A.....................A....................................... AL807813
1942 ........A.....................A....................................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2040      2050      2060      2070      2080      2090      2100
     ---------+---------+---------+---------+---------+---------+---------+
2019 ATGCCTACAAGAGAAAGCAGGAAAGATCCAAAATTGACACCCTAACATCACAATTAAAAGAACTAGAAAA L1.3spliced
2014 ....TC................................................................ AC079018
2020 .....C................................................................ AC093115
2020 .....C................................................................ AF188024
2018 .....C...........A.................................................... AL133472
2013 .....C.....................T.......................................... AL138900
2019 .....C................................................................ AL163952
2010 .....C.....................AT.........................G............G.. AL353590
2018 .....C................................................................ AL807813
2012 .....C................................................................ AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2110      2120      2130      2140      2150      2160      2170
     ---------+---------+---------+---------+---------+---------+---------+
2089 GCAAGAGCAAACACATTCAAAAGCTAGCAGAAGGCAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAA L1.3spliced
2084 ..............................G....................................... AC079018
2090 ...................................................................... AC093115
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2090 ....C................................................................. AF188024
2088 ...........................A.......................................... AL133472
2083 ...................................................................... AL138900
2089 ...................................................................... AL163952
2080 ..............................G.................G..................... AL353590
2088 ..............................................................A....... AL807813
2082 ...................................................................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2180      2190      2200      2210      2220      2230      2240
     ---------+---------+---------+---------+---------+---------+---------+
2159 ATAGAGACACAAAAAA-CCCTTCAAAAAATCAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAA L1.3spliced
2154 ...............--.....T....T..T............................A.......C.. AC079018
2160 ................-.............G....................................... AC093115
2160 ................A.............T..C.............A...................... AF188024
2158 .........A......AT............T....................................... AL133472
2153 G......T........-..................................................... AL138900
2159 ................-..................................................... AL163952
2150 ..............C.-.............T......................CA....A.......... AL353590
2158 .........T......-...........-.T...........................G........... AL807813
2152 ................-.............T....................................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2250      2260      2270      2280      2290      2300      2310
     ---------+---------+---------+---------+---------+---------+---------+
2228 ATTGATAGACCGCTAGCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACACAATAAAAAATG L1.3spliced
2222 ..........T........A....G.......G.......................TG............ AC079018
2229 .............................----..........................G.......... AC093115
2230 ...........A.......................................G.....G............ AF188024
2228 ..........T...................-----..A.A................TG..........C. AL133472
2222 ..C................................................................... AL138900
2228 ...........A.......................................................... AL163952
2219 ....T.....A.................TA..G.-.GA.A...GAG.....G....TG............ AL353590
2226 ................................G.......................TG............ AL807813
2221 ........G.......................G.......................TGT........... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2320      2330      2340      2350      2360      2370      2380
     ---------+---------+---------+---------+---------+---------+---------+
2298 ATAAAGGGGATATCACCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAACACCTCTA L1.3spliced
2292 ...................T...................................T........A..... AC079018
2295 ...................................................................... AC093115
2300 .........C......T........T......................................A..... AF188024
2293 .......A.............................................................. AL133472
2292 ....................A..............T.................................. AL138900
2298 ...................T.................................................. AL163952
2288 ...................T...............................................T.. AL353590
2296 .............................................A.........A.............. AL807813
2291 ...................A......................A.....C..................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2390      2400      2410      2420      2430      2440      2450
     ---------+---------+---------+---------+---------+---------+---------+
2368 CGCAAATAAACTAGAAAATCTAGAAGAAATGGATACATTCCTCGACACATACACTCTCCCAAGACTAAAC L1.3spliced
2362 ...........C.......................A..................C............... AC079018
2365 .A.................................................................... AC093115
2370 T..................................A...............T.................. AF188024
2363 ...................................A..................C............... AL133472
2362 ...................................A.......A...........T.............. AL138900
2368 ...................................A.......A.......................... AL163952
2358 .A...........................C....CA......G...........C............... AL353590
2366 ...................................A.......A..........C........T...... AL807813
2361 T..................................A.......A.A......G.C............... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2460      2470      2480      2490      2500      2510      2520
     ---------+---------+---------+---------+---------+---------+---------+
2438 CAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGCTCTGAAATTGTGGCAATAATCAATAGTTTAC L1.3spliced
2432 ..........A...........G..........................................C.... AC079018
2435 ......................................AG.............................. AC093115
2440 ..............................G.......AG.........................C.... AF188024
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2433 ......................................A..........................C.... AL133472
2432 ......................................A..........................C.... AL138900
2438 ......................................AG............A.......G.C....... AL163952
2428 ......C....................T....................CA.........T.....C.... AL353590
2436 ..A.....................................A.................C......C.A.. AL807813
2431 .................................................................C.... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2530      2540      2550      2560      2570      2580      2590
     ---------+---------+---------+---------+---------+---------+---------+
2508 CAACCAAAAAGAGTCCAGGACCAGATGGATTCACAGCCGAATTCTACCAGAGGTACATGGAGGAACTGGT L1.3spliced
2502 ..G.......A...G..............................G...........A......G..... AC079018
2505 .........................................................A............ AC093115
2510 ......................G..................................A............ AF188024
2503 ....T................................AA..................A............ AL133472
2502 ...........................C..........A................A.A............ AL138900
2508 .....................................G...................A............ AL163952
2498 ..........A..............A............A..................A......G..... AL353590
2506 ............T.........................A.....A...CA.......A.......T.... AL807813
2501 .........................................................A............ AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2600      2610      2620      2630      2640      2650      2660
     ---------+---------+---------+---------+---------+---------+---------+
2578 ACCATTCCTTCTGAAACTATTCCAATCAATAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCC L1.3spliced
2572 ...................................................................... AC079018
2575 ...................................................................... AC093115
2580 ....................................C................................. AF188024
2573 .........................................T............................ AL133472
2572 ................A............C..........A............................. AL138900
2578 ................................................................C..... AL163952
2568 ...........................................G..........G............... AL353590
2576 .........G....................................T....................... AL807813
2571 .....................................A...A...........T.......G........ AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2670      2680      2690      2700      2710      2720      2730
     ---------+---------+---------+---------+---------+---------+---------+
2648 AGCATCATTCTGATACCAAAGCCGGGCAGAGACACAACCAAAAAAGAGAATTTTAGACCAATATCCTTGA L1.3spliced
2642 .A......C..............T.............................................. AC079018
2645 ....................................G...............G................. AC093115
2650 ........C..............A..............A............................... AF188024
2643 ........C.............T.................................C............. AL133472
2642 ........C.....G........A.............................................. AL138900
2648 ......T............................................................... AL163952
2638 ........C..............T..........................................C... AL353590
2646 ........C.............T..A........G............C...................... AL807813
2641 ........C...T..T..........A........................................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2740      2750      2760      2770      2780      2790      2800
     ---------+---------+---------+---------+---------+---------+---------+
2718 TGAACATTGATGCAAAAATCCTCAATAAAATACTGGCAAACCGAATCCAGCAGCACATCAAAAAGCTTAT L1.3spliced
2712 ........................G..C..............T....................T-..... AC079018
2715 ...................................................................... AC093115
2720 .............................G...................................T.... AF188024
2713 ......C..................................T..........A................. AL133472
2712 ................................T.........A........................... AL138900
2718 ........................................A............................. AL163952
2708 ....................T..................................T...........C.. AL353590
2716 G.....ACA...............................A.................G........... AL807813
2711 ..........G................................G.......................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2810      2820      2830      2840      2850      2860      2870
     ---------+---------+---------+---------+---------+---------+---------+
2788 CCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAATATACGCAAATCAATAAATGTA L1.3spliced
2781 ................................................C...T................. AC079018
2785 .................C.................................................... AC093115
2790 .....................................................A................ AF188024
2783 .....................................................A................ AL133472
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2782 ...............A...................................................... AL138900
2788 ...................................................................... AL163952
2778 ...G............................................C.....A............... AL353590
2786 ....................................................T................. AL807813
2781 ...................................................................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2880      2890      2900      2910      2920      2930      2940
     ---------+---------+---------+---------+---------+---------+---------+
2858 ATCCAGCATATAAACAGAGCCAAAGACAAAAACCACATGATTATCTCAATAGATGCAGAAAAAGCCTTTG L1.3spliced
2851 ..................A...........................................G....... AC079018
2855 ................C..................................................... AC093115
2860 ..................A..............................C............G....... AF188024
2853 ..................A...........................................G....... AL133472
2852 ......T...........A...........................................G..T.... AL138900
2858 ..................A....................................A.............. AL163952
2848 .........G........A..............T...............A....A.......G....... AL353590
2856 ..................A...........................................G....... AL807813
2851 .........G........A.............T.............................G....... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              2950      2960      2970      2980      2990      3000      3010
     ---------+---------+---------+---------+---------+---------+---------+
2928 ACAAAATTCAACAACCCTTCATGCTAAAAACTCTCAATAAATTAGGTATTGATGGGACGTATTTCAAAAT L1.3spliced
2921 ............C...T.............................................C....... AC079018
2925 ............................--........................................ AC093115
2930 ..........................G..............................T...GC....... AF188024
2923 .G.............G..........................................A...C....... AL133472
2922 ......C..C...........................................................C AL138900
2928 ...................................................................... AL163952
2918 ......................T.......T.....G.........................C....... AL353590
2926 ................................T.........................A..CC....... AL807813
2921 C.............................................................C....... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3020      3030      3040      3050      3060      3070      3080
     ---------+---------+---------+---------+---------+---------+---------+
2998 AATAAGAGCTATCTATGACAAACCCACAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCT L1.3spliced
2991 ......C..........................................A.....T.............. AC079018
2993 ...................................................................... AC093115
3000 ...................................................................... AF188024
2993 ..............G..T.................................................... AL133472
2992 ............T.................................................T...A.-. AL138900
2998 ................................................................C..... AL163952
2988 ..............T....................................................... AL353590
2996 ................................................................C..... AL807813
2991 ...................................................................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3090      3100      3110      3120      3130      3140      3150
     ---------+---------+---------+---------+---------+---------+---------+
3068 TTGAAAACCGGCACAAGACAGGGATGCCCTCTCTCACCGCTCCTATTCAACATAGTGTTGGAAGTTCTGG L1.3spliced
3061 .....G..T.....................A.......A................G........C..... AC079018
3063 ........T.............................A............................... AC093115
3070 ........T.................T........................................... AF188024
3063 ........T.............................A............................... AL133472
3061 ........T.............................A............................... AL138900
3068 ........T.............................A............................... AL163952
3058 ........T..................T..........A............................... AL353590
3066 ......T.G.............................A............................... AL807813
3061 ...C....T.............................A............................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3160      3170      3180      3190      3200      3210      3220
     ---------+---------+---------+---------+---------+---------+---------+
3138 CCAGGGCAATCAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAATTGTCCCT L1.3spliced
3131 ..........T...........A..........-C.....G..T.......................... AC079018
3133 ..................................C................................T.. AC093115
3140 ..................................................A................... AF188024
3133 .T.........................................C.......................... AL133472
3131 ...................................................................... AL138900
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3138 ..........T........................................................... AL163952
3128 .........................................C............................ AL353590
3136 ........................................C............................. AL807813
3131 ....................................................A......T.......... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3230      3240      3250      3260      3270      3280      3290
     ---------+---------+---------+---------+---------+---------+---------+
3208 GTTTGCAGACGACATGATTGTATATCTAGAAAACCCCATCGTCTCAGCCCAAAATCTCCTTAAGCTGATA L1.3spliced
3200 .....G...T.............................T.............................. AC079018
3203 .....................T.................T.............................. AC093115
3210 ...................A..................CT......A....................... AF188024
3203 .........T..........................T..T........T..................... AL133472
3201 .........T.............................T..T.......C................... AL138900
3208 ..........A............................T.............................. AL163952
3198 .........T.............................T.............................. AL353590
3206 .........T..........G............T.....T....................C......... AL807813
3201 .........T..........C..................T......A....................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3300      3310      3320      3330      3340      3350      3360
     ---------+---------+---------+---------+---------+---------+---------+
3278 AGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAAAAATCACAAGCATTCTTATACACCAACA L1.3spliced
3270 ................................................G...................T. AC079018
3273 .........................................G............................ AC093115
3280 ...................................................................... AF188024
3273 ....................................................................T. AL133472
3271 .................T.................................................... AL138900
3278 ...................................................................... AL163952
3268 GA................G...................G.......T.....................T. AL353590
3276 G...............A...................................................T. AL807813
3271 ....................................................................T. AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3370      3380      3390      3400      3410      3420      3430
     ---------+---------+---------+---------+---------+---------+---------+
3348 ACAGACAAACAGAGAGCCAAATCATGGGTGAACTCCCATTCGTAATTGCTTCAAAGAGAATAAAATACCT L1.3spliced
3340 ..........................A..............AC........................T.. AC079018
3343 ............----..........A..............AC........................... AC093115
3350 .....................C....AC.............AC........................... AF188024
3343 .......G.G..----..........A..............AC........................... AL133472
3341 ..........................A..............AC........................... AL138900
3348 .......................G..A..............AC........................... AL163952
3338 ..........................A..............AC.............G............. AL353590
3346 ..........................A..............AC..............A............ AL807813
3341 ..........................A........T.....AC........................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3440      3450      3460      3470      3480      3490      3500
     ---------+---------+---------+---------+---------+---------+---------+
3418 AGGAATCCAACTTACAAGGGATGTGAAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATA L1.3spliced
3410 ..............A.....G....................................A.....T...... AC079018
3409 ...................................................................... AC093115
3420 ....G................................................................. AF188024
3409 ...........................................G................T..C.G...T AL133472
3411 ...................................................................... AL138900
3418 ....C................................................................. AL163952
3408 .......TG............CA........................................T...... AL353590
3416 .....................CT........................................T...... AL807813
3411 .....C...............C.........................................T...... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3510      3520      3530      3540      3550      3560      3570
     ---------+---------+---------+---------+---------+---------+---------+
3488 AAAGAGGACACAAACAAATGGAAGAACATTCCATGCTCATGGGTAGGAAGAATCAATATCGTGAAAATGG L1.3spliced
3480 .....A..T............................................................. AC079018
3479 ........T.....G....................................................... AC093115
3490 ........T............................................................. AF188024
3479 ........T..............................C.........C.........T.......... AL133472
3481 ........T..................................................T.......... AL138900
3488 ........T................................................TG........... AL163952
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3478 ........T.................T................................T.......... AL353590
3486 ........T.....-...........T..................A.............T.......... AL807813
3481 ........T..................................................T.......... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3580      3590      3600      3610      3620      3630      3640
     ---------+---------+---------+---------+---------+---------+---------+
3558 CCATACTGCCCAAGGTAATTTACAGATTCAATGCCATCCCCATCAAGCTACCAATGACTTTCTTCACAGA L1.3spliced
3550 ......................T.C............................G..............C. AC079018
3549 ............................T......................................... AC093115
3560 ......................................G..............................T AF188024
3549 ..C..T................T............................................... AL133472
3551 .....T................T.........................................T..... AL138900
3558 ..............................................................C....... AL163952
3548 ................C.....T............................................... AL353590
3555 ......................T....................T............T............. AL807813
3551 ......................T.................T............................. AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3650      3660      3670      3680      3690      3700      3710
     ---------+---------+---------+---------+---------+---------+---------+
3628 ATTGGAAAAAA-CTACTTTAAAGTTCATATGGAACCAAAAAAGAGCCCGCATTGCCAAGTCAATCCTAAG L1.3spliced
3620 ...........-........................................CA................ AC079018
3619 ...........-.......................................................... AC093115
3630 ...........-...................................T....C................. AF188024
3619 ...........-........................................CA................ AL133472
3621 ...A.......A........................................CA................ AL138900
3628 ...........-......................G.................C................. AL163952
3618 ..G........-....C...................C...........A....................T AL353590
3625 ...........-.......C............................A...CA................ AL807813
3621 ...........-.......................................................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3720      3730      3740      3750      3760      3770      3780
     ---------+---------+---------+---------+---------+---------+---------+
3697 CCAAAAGAACAAAGCTGGAGGCATCACACTACCTGACTTCAAACTATACTACAAGGCTACAGTAACCAAA L1.3spliced
3689 ...............C...................................................... AC079018
3688 ...................................................................... AC093115
3699 ........G..........A.................................................. AF188024
3688 ...........................G.......................................... AL133472
3691 ...................................................................... AL138900
3697 ...................................................................... AL163952
3687 ...............C...........G.......................................... AL353590
3694 ..........................TG..................C....................... AL807813
3690 ...........................GT.................C....................... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3790      3800      3810      3820      3830      3840      3850
     ---------+---------+---------+---------+---------+---------+---------+
3767 ACAGCATGGTACTGGTACCAAAACAGAGATATAGATCAATGGAACAGAACAGAGCCCTCAGAAATAATGC L1.3spliced
3759 ...................................................................... AC079018
3758 ...................................................................C.. AC093115
3769 ...T......................................G........................C.. AF188024
3758 ...................................................................CA. AL133472
3761 .............C.....................C...........................G...... AL138900
3767 ...................................................................C.. AL163952
3757 T..............................C...C.................................. AL353590
3764 ..................A............C...C.................................. AL807813
3760 ...................................................................C.. AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3860      3870      3880      3890      3900      3910      3920
     ---------+---------+---------+---------+---------+---------+---------+
3837 CGCAT----------------------------------------------------------------- L1.3spliced
3829 .....----------------------------------------------------------------- AC079018
3828 T....----------------------------------------------------------------- AC093115
3839 T....----------------------------------------------------------------- AF188024
3828 .....CGTCTACGGCCATACCACCCTGAACACGCCCGATCTCGTCTGATCTCGGAAGCTAAGCAGGGTCG AL133472
3831 .....----------------------------------------------------------------- AL138900
3837 .....----------------------------------------------------------------- AL163952
3827 .A...----------------------------------------------------------------- AL353590
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3834 T....----------------------------------------------------------------- AL807813
3830 .....----------------------------------------------------------------- AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              3930      3940      3950      3960      3970      3980      3990
     ---------+---------+---------+---------+---------+---------+---------+
3842 ---------------------------------------ATCTACAACTATCTGATCTTTGACAAACCTG L1.3spliced
3834 ---------------------------------------.........C..................... AC079018
3833 ---------------------------------------.C............................. AC093115
3844 ---------------------------------------............................... AF188024
3898 GGCCTGGTTAGTACTTGGATGGGAGAAATAACACCGCAT...........................T... AL133472
3836 ---------------------------------------............................... AL138900
3842 ---------------------------------------............................... AL163952
3832 ---------------------------------------............................... AL353590
3839 ---------------------------------------............................... AL807813
3835 ---------------------------------------................C.............. AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4000      4010      4020      4030      4040      4050      4060
     ---------+---------+---------+---------+---------+---------+---------+
3873 AGAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAATGGTGCTGGGAAAACTGGCTAGCCATATG L1.3spliced
3865 .C....................C...............................T............... AC079018
3864 ................................................T..................... AC093115
3875 .C.................................................................... AF188024
3968 .C.................................................................... AL133472
3867 .C.........A.......................................................C.A AL138900
3873 ...................................................................... AL163952
3863 ..........A.......................G................................... AL353590
3870 .C.............................G...............................A...... AL807813
3866 .........................A.........................G.............G.... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4070      4080      4090      4100      4110      4120      4130
     ---------+---------+---------+---------+---------+---------+---------+
3943 TAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTATACAAAAATCAATTCAAGATGGATTAAAGATTTA L1.3spliced
3935 G............................................T....................C... AC079018
3934 ...................................................................... AC093115
3945 .............................................T....................C... AF188024
4038 .............A...............................T....................C.-. AL133472
3937 ..................................................................C... AL138900
3943 ...................................................................... AL163952
3933 G...............C...................C........T....................C... AL353590
3940 ....................A................G............................C... AL807813
3936 .............................T.T.............T....................C... AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4140      4150      4160      4170      4180      4190      4200
     ---------+---------+---------+---------+---------+---------+---------+
4013 AACGTTAAACCTAAAACCATAAAAACCCTAGAAGAAAACCTAGGCATTACCATTCAGGACATAGGCGTGG L1.3spliced
4005 C.T....G......................................A...................A... AC079018
4004 .......G.............................................................. AC093115
4015 C......G..........................................................A... AF188024
4107 ...A...G..........................................................A... AL133472
4007 .......G................................C.........................A... AL138900
4013 .......G..........................................................A... AL163952
4003 ..T....G..................TG......G...............................A... AL353590
4010 ..T....------.................................A...................A... AL807813
4006 ..T....G......................................A...........             AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4210      4220      4230      4240      4250      4260      4270
     ---------+---------+---------+---------+---------+---------+---------+
4083 GCAAGGACTTCATGTCCAAAACACCAAAAGCAATGGCAACAAAAGACAAAATTGACAAATGGGATCTAAT L1.3spliced
4075 ................T............................C......A.......C....T.... AC079018
4074 .............................................C........................ AC093115
4085 ................T....................C.......C........................ AF188024
4177 ................T.G..........................C........................ AL133472
4077 ..G..........C..T............................C........................ AL138900
4083 .............................................C.....................C.. AL163952
4073 ................T............................C...C.................... AL353590
4074 ................T............................C............G........... AL807813
```

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4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4280      4290      4300      4310      4320      4330      4340
     ---------+---------+---------+---------+---------+---------+---------+
4153 TAAACTAAAGAGCTTCTGCACAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACAACATGGGAG L1.3spliced
4145 .............................................................GA....... AC079018
4144 ...................................................................... AC093115
4155 .C......................G.....................................A....... AF188024
4247 ..............................................................A....... AL133472
4147 .................................C............................A....... AL138900
4153 ....................................T.........................A....... AL163952
4143 .............................................................GA....... AL353590
4144 ...................................T..........................A....... AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4350      4360      4370      4380      4390      4400      4410
     ---------+---------+---------+---------+---------+---------+---------+
4223 AAAATTTTCGCAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACAATGAACTTAAACAAATTT L1.3spliced
4215 .........A........G........................................C.......... AC079018
4214 ..............T............................................C.......... AC093115
4225 ...G....T..............................A...................C.......... AF188024
4317 ...T.C.C...................T.............T.................C.......... AL133472
4217 ................G....C.....................................CC......... AL138900
4223 ...........................................................C.......... AL163952
4213 ..C.....T....T............A................................C.....C.... AL353590
4214 ........T..................................................C.......... AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4420      4430      4440      4450      4460      4470      4480
     ---------+---------+---------+---------+---------+---------+---------+
4293 ACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGGACATGAACAGACACTTCTCAAAAGAAGA L1.3spliced
4285 .....................................A.....T.........G.............C.. AC079018
4284 .............................................................T........ AC093115
4295 .....................T.........C.....A................................ AF188024
4387 ..................G.................AA.....T.......................... AL133472
4287 .......................T............T................................. AL138900
4293 ...................................................................... AL163952
4283 ............................C......A.A.....T.......................... AL353590
4284 ..........T-.........................A................................ AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4490      4500      4510      4520      4530      4540      4550
     ---------+---------+---------+---------+---------+---------+---------+
4363 CATTTATGCAGCCAAAAAACACATGAAGAAATGCTCATCATCACTGGCCATCAGAGAAATGCAAATCAAA L1.3spliced
4355 ...........................A.......................................... AC079018
4354 ...........................A.......................................... AC093115
4365 ...........................A.........C................................ AF188024
4457 ...............C.G.........A...................T...........C.......... AL133472
4357 ...........................A........GC................................ AL138900
4363 ...............G...........A.........................A................ AL163952
4353 .................G.........A............G............................. AL353590
4353 ...........................A.........C................................ AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4560      4570      4580      4590      4600      4610      4620
     ---------+---------+---------+---------+---------+---------+---------+
4433 ACCACTATGAGATATCATCTCACACCAGTTAGAATGGCAATCATTAAAAAGTCAGGAAACAACAGGTGCT L1.3spliced
4425 .....A........C....................................................... AC079018
4424 ......................................G............................... AC093115
4435 ...G.A................................................................ AF188024
4527 .....A........C.......................G..........T.................A.. AL133472
4427 .....A........C.......................G....................A.......... AL138900
4433 .....A........C....................................................... AL163952
4423 ..T..A........C......C................................................ AL353590
4423 .....A........C......................TGT...................T.......... AL807813
4063                                                                        AC093808
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     ---------+---------+---------+---------+---------+---------+---------+
              4630      4640      4650      4660      4670      4680      4690
     ---------+---------+---------+---------+---------+---------+---------+
4503 GGAGAGGATGCGGAGAAATAGGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTG L1.3spliced
4495 ..........T......................................................C.... AC079018
4494 ..........T........................................................... AC093115
4505 ..........T........................................................... AF188024
4597 ..........T........................................................... AL133472
4497 ..........T......................G.................................... AL138900
4503 ..........T.................................A......................... AL163952
4493 ..........T........................................................... AL353590
4493 A.........T....................T................C.G................... AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4700      4710      4720      4730      4740      4750      4760
     ---------+---------+---------+---------+---------+---------+---------+
4573 GAAGTCAGTGTGGCGATTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCATTACTG L1.3spliced
4565 ...................................................................... AC079018
4564 ...................................................................... AC093115
4575 .................................................A.................... AF188024
4667 .......C.............................................................. AL133472
4567 .............T.......................C......A......................... AL138900
4573 ...................................................................... AL163952
4563 ...........T........................GC..........................C..... AL353590
4563 .............T........................................................ AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4770      4780      4790      4800      4810      4820      4830
     ---------+---------+---------+---------+---------+---------+---------+
4643 GGTATATACCCA------------------AATGAGTATAAATCATGCTGCTATAAAGACACATGCACAC L1.3spliced
4635 ............------------------..G..C.................................. AC079018
4634 ............------------------..G..C.................................. AC093115
4645 ............TTACTGGGTATATACCCA..G..C.................................. AF188024
4737 ............------------------..G..C..C............................... AL133472
4637 ............------------------..G..C.................................G AL138900
4643 ............------------------..G..C.................................. AL163952
4633 ............------------------..G..T......A......................A...T AL353590
4633 ............------------------..G..T........G......................... AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4840      4850      4860      4870      4880      4890      4900
     ---------+---------+---------+---------+---------+---------+---------+
4695 GTATGTTTATTGCGGCACTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAATGATAGA L1.3spliced
4687 ..........G.............................................T............. AC079018
4686 .................G.................................................... AC093115
4715 .............A...T.................................................... AF188024
4789 ............T.................................................G....... AL133472
4689 .............A...T.................................................... AL138900
4695 .................T.................................................... AL163952
4685 ............A.............................G...........A............... AL353590
4685 .................................................T.................... AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              4910      4920      4930      4940      4950      4960      4970
     ---------+---------+---------+---------+---------+---------+---------+
4765 CTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCATAAAAAA-TGATGAGTTCAT L1.3spliced
4757 .........................................................-.T.A........ AC079018
4756 .........................................................-............ AC093115
4785 .........................................................-............ AF188024
4859 .........................................................-......A..... AL133472
4759 .........................................................A............ AL138900
4765 .........................................................-..........G. AL163952
4755 .............C..........................C................-......A..... AL353590
4755 .........................................................-............ AL807813
4063                                                                        AC093808
```

```
     ---------+---------+---------+---------+---------+---------+---------+
              4980      4990      5000      5010      5020      5030      5040
     ---------+---------+---------+---------+---------+---------+---------+
4834 ATCCTTTGTAGGGACATGGATGAAATTGGAAACCATCATTCTCAGTAAACTATCGCAAGAACAAAAAA-C L1.3spliced
4826 G..T.....................C...................C.......G.....G........A. AC079018
4825 G...................................................................-. AC093115
4854 G...............................T...................................-. AF188024
4928 G............G..................T...................................-. AL133472
4829 G...............................T...................................-. AL138900
4834 G...............................T.....................A.............-. AL163952
4824 G.......................GC............G......C........A....G.......G-. AL353590
4824 G.G......................C...................C........A....G........-G AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              5050      5060      5070      5080      5090      5100      5110
     ---------+---------+---------+---------+---------+---------+---------+
4903 CAAACACCGCATATTCTCACTCATAGGTGGGAATTGAACAATGAGATCACATGGACACAGGAAGGGGAAT L1.3spliced
4896 ............G....................C............AT.....................C AC079018
4894 ...................................................................... AC093115
4923 ..............................................A......................C AF188024
4997 ............G....................C............A......................C AL133472
4898 ..............................................A......................C AL138900
4903 .......G.............................................A................ AL163952
4893 ........A...G............................C....A.............A........C AL353590
4893 .......T....G.....T...G.......................A......................C AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              5120      5130      5140      5150      5160      5170      5180
     ---------+---------+---------+---------+---------+---------+---------+
4973 ATCACACTCTGGGGACTGTGGTGGGGTCGGGGGAGGGGGGAGGGATAGCATTGGGAGATATA----CCTA L1.3spliced
4966 ......T..-A........T.......G..........A......C......A.........----.... AC079018
4964 ...........................G.....--...........................----.... AC093115
4993 ......T............T.......G....T.............................----.... AF188024
5067 ...................T.......G........................A.........----.... AL133472
4968 ...........A.......T..T....G...............C.............G....----.... AL138900
4973 .................C.........G......A...A.......................----.... AL163952
4963 .......A.C....CG...T.......G.......T................A.........TATA.... AL353590
4963 ....G..A...........T.......T........................A.........----.... AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              5190      5200      5210      5220      5230      5240      5250
     ---------+---------+---------+---------+---------+---------+---------+
5039 ATGCTAGATGACACATTAGTGGGTGCAGCGCACCAGCATGGCACATGTATACATAT----GTAACTAACC L1.3spliced
5031 ...-..A.....GAG...A................A............G......A----........A. AC079018
5028 ............GAG.........................................----.......... AC093115
5059 ............GAG.........A....A.....................T....ATAT.......... AF188024
5133 ......A.C...GAG...A..........A..........................----........T. AL133472
5034 ...........TGAG.............................G...........----.......... AL138900
5039 ............GAG..............................G..........----.......... AL163952
5033 ...T..A.....GAG...C..........A.....A...A...............C----A....A...A AL353590
5029 ......A.....GAG...A..........A.....A....................----.....A...T AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
              5260      5270      5280      5290      5300      5310      5320
     ---------+---------+---------+---------+---------+---------+---------+
5105 TGCACAATGTGCACATGTACCCTAAAACTTAGAGTATAATAAAAAAAAAAAAAAAAAAAA--AAAAAA-- L1.3spliced
5096 ......T.................G......A..........T..-..T....T......GA..T..--- AC079018
5094 ...............................A.....---........C...GTT.....--......-- AC093115
5129 ......T........................A..........T..T...T...T...T..--..T..--- AF188024
5199 G.....T........C...............A..........T..T.........G....AA..T.CT-- AL133472
5100 A.....T.................C......A..........T..T..T..T..T..T..T-..T..T-- AL138900
5105 ...............................A................C......C....--..C..C-- AL163952
5099 .....GT........................A.T..A---..........G.GGCCGGGCGCGGTGGCT- AL353590
5095 C.....T....T..................TA..........T..T....T.......T.AT.....TTA AL807813
4063                                                                        AC093808

     ---------+---------+---------+---------+---------+---------+---------+
```

```
               5330      5340      5350      5360      5370      5380      5390
     ---------+---------+---------+---------+---------+---------+---------+
5171 AAAAAAAAAAA                                                            L1.3spliced
5162 .....TTT...------AACAAAGAATCATTCTCTATAATTAAGTCTCATAACAGGCAACACTTCCAGAT AC079018
5157 ......G....--TG--CTGCTGGGATTTGGTA-ACTGG------AGGTGGCGGGTAGGAACATTTTGGC AC093115
5194 ..T..GT...TTTTA--AAAAAAAGAAAGAGAATACACAA----TTTTTTACAGTTTATCAATACAGTGC AF188024
5267 T..........G-----AAAAAAAGAGAGAAGAATCAAATAGA-CACAATAAAAAATGTTAAAGGGTAGA AL133472
5167 ...G.....G.TCCAGCAAGCTGCATTCCACAAAAAAAAAAAA-AAAAAAAAAAACTAGAGAAGCAAGAG AL138900
5171 ..C..C.....GTTG--AATCAAAAGCTCTGTAGACTAGTCCC-TGACCTGCGTGTTCAACAGGCCCTAC AL163952
5165 C.CGCCTGT..TCCCAGCACTTTGGGAGGCCGAGGTGGGCGGATCACGAGGTCAGG               AL353590
5165 ......T....AATAAAAATATAAGTATAATCTGTAAGATTCACCTAAAAAAAAAACTTCACAATATAAA AL807813
4063                                                                        AC093808
```

Supplemental figure 4. Alignment of the spliced L1 elements identified in the human genome. Sequences of the full-length human L1 elements that underwent splicing (SD and SA sites at positions 97 and 970 of L1.3 sequence respectively) and retrotransposed were extracted from the human genome and aligned by ClustalW method against L1.3 sequence spliced in the same manner (L1.3 spliced). Nucleotides that do not match L1.3 sequence are shown. Deletions are shown with dashes (-). Accession numbers for the contigs containing each sequence are shown on the right. AL807813 L1 belongs to the Ta family, the rest of the elements are non-Ta. The AC009487 L1 sequence has not been included in the alignment because it contains other internal rearrangements as well.

```
      ---------+---------+---------+---------+---------+---------+---------+
               10        20        30        40        50        60        70
      ---------+---------+---------+---------+---------+---------+---------+
    1 CGGAACTTAGGAAATTAGTCTGAACAGGAGGAGGTCCAAATACAAGATATCTGCGCACCTTCCCTGTAAG
L1spaSp27to1597
    1 --.................................................................... AC036146
    1 ----.................................................................. AC107832
    1 -...........TT........C.................A............................. AC122029
    1 --...............................A.................................... AC122834
    1 --.................................................................... AC124709
    1 -............T........C..........A......A............................. AC153559
    1 --.................................................................... AL646046
    1 --.................................................................... AL662923
    1 --.................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               80        90        100       110       120       130       140
      ---------+---------+---------+---------+---------+---------+---------+
   71 AGAGCTTGCCAGCAGAGAGTGCTCTGAGCACTGAAACTCAGAGGAGAGAATCTGTCTCCCAGGTCTGCTG
L1spaSp27to1597
   69 ...................................................................... AC036146
   67 ...................................................................... AC107832
   70 ...................................................................... AC122029
   69 ...................................................................... AC122834
   69 ...................................................................... AC124709
   70 ...................................................................... AC153559
   69 ...................................................................... AL646046
   69 ...................................................................... AL662923
   69 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               150       160       170       180       190       200       210
      ---------+---------+---------+---------+---------+---------+---------+
  141 ATAGACGGTAACAGAATCACCAGAAGAACAATCTCTAAACAGAGTCAACTATAACTACTAACTCCAGAGA
L1spaSp27to1597
  139 ...................................................................... AC036146
  137 ...................................................................... AC107832
  140 .G................................................................C... AC122029
  139 ...................................................................... AC122834
  139 .C.................................................................... AC124709
  140 .G.................................................................... AC153559
  139 ...................................................................... AL646046
  139 ...................................................................... AL662923
  139 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               220       230       240       250       260       270       280
      ---------+---------+---------+---------+---------+---------+---------+
  211 TTACCAGATGGCGAAAGGTAAACGGAGGAATCTTACTAACAGGAACCAAGACCACTCACCATCACCAGAA
L1spaSp27to1597
  209 ...................................................................... AC036146
  207 ...................................................................... AC107832
  210 .......C................T.......C...............................T..... AC122029
  209 ...................................................................... AC122834
  209 ...................................................................... AC124709
  210 ..G.....................T.......C...............................T..... AC153559
  209 ...................................................................... AL646046
  209 ...................................................................... AL662923
  209 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               290       300       310       320       330       340       350
      ---------+---------+---------+---------+---------+---------+---------+
  281 CCCAGCACACCCACTTCGCCCAGTCCAGGGAACCCCAACACACCTGAGAACCTAGACCTAGATTTAAAAG
L1spaSp27to1597
  279 ...................................................................... AC036146
  277 ...................................................................... AC107832
  280 ........T.......T.............C.............C..A...................... AC122029
  279 .........................................................T............ AC122834
  279 ...................................................................... AC124709
  280 ........T.....................C.............C..A...................... AC153559
```

```
  279 ...................................................................... AL646046
  279 ...................................................................... AL662923
  279 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               360       370       380       390       400       410       420
      ---------+---------+---------+---------+---------+---------+---------+
  351 CATATCTCATGATGATGGTAGAGGGCATCAAGAAGGACTTTAATAAATCACTTAAAGAAATACAGGAGAA
L1spaSp27to1597
  349 ........................A............................................. AC036146
  347 ........................A............................................. AC107832
  350 ........................A............................................. AC122029
  349 ........................A............................................. AC122834
  349 ........................A............................................. AC124709
  350 ........................A............................................. AC153559
  349 ........................A............................................. AL646046
  349 ........................A............................................. AL662923
  349 ........................A............................................. AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               430       440       450       460       470       480       490
      ---------+---------+---------+---------+---------+---------+---------+
  421 CACTGCTAAAGAGTTACAAGTCCTTAAAGAAAAACAGGAAAACACAATCAAACAGGTAGAAGTCCTTACA
L1spaSp27to1597
  419 ...................................................................... AC036146
  417 ...................................................................... AC107832
  420 ...................................................................... AC122029
  419 ...................................................................... AC122834
  419 ...................................................................... AC124709
  420 ...................................................................... AC153559
  419 ...................................................................... AL646046
  419 ...................................................................... AL662923
  419 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               500       510       520       530       540       550       560
      ---------+---------+---------+---------+---------+---------+---------+
  491 GAAAAAGAGGAAAAAACATACAAACAGGTGATGGAAATGAACAAAACCATACTAGACCTAAAAAGGGAAG
L1spaSp27to1597
  489 ...................................................................... AC036146
  487 ...................................................................... AC107832
  490 ...................................................................... AC122029
  489 ...................................................................... AC122834
  489 ...................................................................... AC124709
  490 ...................................................................... AC153559
  489 ...................................................................... AL646046
  489 ...................................................................... AL662923
  489 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               570       580       590       600       610       620       630
      ---------+---------+---------+---------+---------+---------+---------+
  561 TAGACACAATAAAGAAAACTCAAAGCGAGGCAACACTAGAGATAGAAACCCTAGGAAAGAAATCTGGAAC
L1spaSp27to1597
  559 ...................................................................... AC036146
  557 ...................................................................... AC107832
  560 ....A....................T...........G................................ AC122029
  559 ...................................................................... AC122834
  559 ...................................................................... AC124709
  560 ....A....................T...........G................................ AC153559
  559 ...................................................................... AL646046
  559 ...................................................................... AL662923
  559 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               640       650       660       670       680       690       700
      ---------+---------+---------+---------+---------+---------+---------+
  631 CATAGATTTGAGCATCAGCAACAGAATACAAGAGATGGAAGAGAGAATCTCAGGTGCAGAACATTCCATA
L1spaSp27to1597
  629 .............................................................G........ AC036146
  627 .............................................................G........ AC107832
```

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  630 .............................................................G........ AC122029
  629 .............................................................G........ AC122834
  629 .............................................................G........ AC124709
  630 .............................................................G........ AC153559
  629 .............................................................G........ AL646046
  629 ...................................G.........................G........ AL662923
  629 .............................................................G........ AL845483

      ---------+---------+---------+---------+---------+---------+---------+
              710       720       730       740       750       760       770
      ---------+---------+---------+---------+---------+---------+---------+
  701 GAGAACATCGGCACAACAATCAAAGAAAATGGAAAATGCAAAAAGATCCTAACTCAAAATATCCAGGAAA
L1spaSp27to1597
  699 ...................................................................... AC036146
  697 ...................................................................... AC107832
  700 ...................................................................... AC122029
  699 ...................................................................... AC122834
  699 ...................................................................... AC124709
  700 ...................................................................... AC153559
  699 ...................................................................... AL646046
  699 ...................................................................... AL662923
  699 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
              780       790       800       810       820       830       840
      ---------+---------+---------+---------+---------+---------+---------+
  771 TCCAGGACACAATAAGAAGACCAAACGTACGGATAATAGGAGTGGATGAGAATGAAGATTTTCAACTCAA
L1spaSp27to1597
  769 ...................................................................... AC036146
  767 ...................................................................... AC107832
  770 .............G..........G.C........................................... AC122029
  769 ...................................................................... AC122834
  769 ...................................................................... AC124709
  770 .............G............C........................................... AC153559
  769 ...................................................................... AL646046
  769 ...................................................................... AL662923
  769 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
              850       860       870       880       890       900       910
      ---------+---------+---------+---------+---------+---------+---------+
  841 AGGTCCAGCAAACATCTTCAACAAAATTATTGAAGAAAACTTCCCAAATCTAAAGAATGAGATGCATATG
L1spaSp27to1597
  839 ...................................................................... AC036146
  837 ...................................................................... AC107832
  840 ...A.............................................A.......A.....A.C.... AC122029
  839 ...................................................................... AC122834
  839 ...................................................................... AC124709
  840 ...A.............................................A.......A.....A.C.... AC153559
  839 ...................................................................... AL646046
  839 ...................................................................... AL662923
  839 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
              920       930       940       950       960       970       980
      ---------+---------+---------+---------+---------+---------+---------+
  911 AACATACAAGAAGCCTACAGAACTCCAAATAGACTGGACCAGAAAAGAAATTCCTCCCGACACATAATAA
L1spaSp27to1597
  909 ...................................................................... AC036146
  907 ...................................................................... AC107832
  910 ...................................................................... AC122029
  909 ...................................................................... AC122834
  909 ...................................................................... AC124709
  910 ...................................................................... AC153559
  909 ...................................................................... AL646046
  909 ...................................................................... AL662923
  909 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
              990       1000      1010      1020      1030      1040      1050
      ---------+---------+---------+---------+---------+---------+---------+
```

```
  981 TCAGAACATCAAATGCACTAAATAAAGATAGAATACTAAAAGCAGTAAGGGAAAAAGGTCAAGTAACATA
L1spaSp27to1597
  979 ...................................................................... AC036146
  977 ...................................................................... AC107832
  980 ........A..................................G.......................... AC122029
  979 ...................................................................... AC122834
  979 ...................................................................... AC124709
  980 ........A............................................................. AC153559
  979 ...................................................................... AL646046
  979 ...................................................................... AL662923
  979 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1060      1070      1080      1090      1100      1110      1120
      ---------+---------+---------+---------+---------+---------+---------+
 1051 TAAAGGCAAGCCTATCAGAATTACACCAGATTTTTCACCAGAGACTATGAAAGCCAGAAGAGCCTGGACA
L1spaSp27to1597
 1049 ...................................................................... AC036146
 1047 ...................................................................... AC107832
 1050 C..................................................................... AC122029
 1049 ...................................................................... AC122834
 1049 ...................................................................... AC124709
 1050 C..................................................................... AC153559
 1049 ...................................................................... AL646046
 1049 .........................A............................................ AL662923
 1049 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1130      1140      1150      1160      1170      1180      1190
      ---------+---------+---------+---------+---------+---------+---------+
 1121 GATGTTATACAGACACTAAGAGAACACAAACTGCAGCCCAGGCTACTATACCCAGCCAAACTCTCAATTA
L1spaSp27to1597
 1119 ...................................................................... AC036146
 1117 ...................................................................... AC107832
 1120 ..............................T.C..................................... AC122029
 1119 ...................................................................... AC122834
 1119 ...................................................................... AC124709
 1120 ..............................T.C..................................... AC153559
 1119 ...................................................................... AL646046
 1119 ...................................................................... AL662923
 1119 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1200      1210      1220      1230      1240      1250      1260
      ---------+---------+---------+---------+---------+---------+---------+
 1191 TCATAGAGGGAGAAACCAAAGTATTCCACGACAAAACCAAATTCACGCATTATCTCTCCACGAATCCAGC
L1spaSp27to1597
 1189 ..............................................A....................... AC036146
 1187 ..............................................A....................... AC107832
 1190 C......T....................................T.A....................... AC122029
 1189 ...................................................................... AC122834
 1189 ...................................................................... AC124709
 1190 C......T......................................A....................... AC153559
 1189 ...................................................................... AL646046
 1189 ...................................................................... AL662923
 1189 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1270      1280      1290      1300      1310      1320      1330
      ---------+---------+---------+---------+---------+---------+---------+
 1261 CCTTCAAAGGATAATAACAGAAAAAAACCAATACAAGAACGGGAACAACGCCCTAGAAAAAA-CAAGAAG
L1spaSp27to1597
 1259 ..............................................................-....... AC036146
 1257 ..............................................................-....... AC107832
 1260 ..........T...............-.....................T.............A....... AC122029
 1259 ..............................................................-....... AC122834
 1259 ..............................................................-....... AC124709
 1260 .......................................T........T.............-....... AC153559
 1259 ................................................T.............-....... AL646046
 1259 ..............................................................-....... AL662923
 1259 ..............................................................-....... AL845483
```

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      ---------+---------+---------+---------+---------+---------+---------+
               1340      1350      1360      1370      1380      1390      1400
      ---------+---------+---------+---------+---------+---------+---------+
 1330 GTAATCCCTCAACAAACCTAAAAGAAGACAGCCACAAGAACAGAATGCCACCTTTAACAACTAAAATAAC
L1spaSp27to1597
 1328 ...................................................................... AC036146
 1326 ...................................................................... AC107832
 1329 ..................................................A..........A........ AC122029
 1328 ...................................................................... AC122834
 1328 ...................................................................... AC124709
 1329 ..................................................A..........A........ AC153559
 1328 ...................................................................... AL646046
 1328 ...................................................................... AL662923
 1328 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1410      1420      1430      1440      1450      1460      1470
      ---------+---------+---------+---------+---------+---------+---------+
 1400 AGGAAGCAACAATTACTTTTCCTTAATATCTCTTAACATCAATGGTCTCAACTCGCCAATAAAAAGACAT
L1spaSp27to1597
 1398 ...................................................................... AC036146
 1396 ...................................................................... AC107832
 1399 ......................................................C..............C AC122029
 1398 ...................................................................... AC122834
 1398 ................C..................................................... AC124709
 1399 ......................................................C............... AC153559
 1398 ...................................................................... AL646046
 1398 ...................................................................... AL662923
 1398 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1480      1490      1500      1510      1520      1530      1540
      ---------+---------+---------+---------+---------+---------+---------+
 1470 AGACTAACAAACTGGCTACACAAACAAGACCCAACATTTTGCTGCTTACAGGAAACTCATCTCAGAGAAA
L1spaSp27to1597
 1468 ...................................................................... AC036146
 1466 ...................................................................... AC107832
 1469 ............................................T........G..A............. AC122029
 1468 ...................................................................... AC122834
 1468 ...................................................................... AC124709
 1469 ............................................T........G..A............. AC153559
 1468 ...................................................................... AL646046
 1468 ...................................................................... AL662923
 1468 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1550      1560      1570      1580      1590      1600      1610
      ---------+---------+---------+---------+---------+---------+---------+
 1540 AAGATAGACACTACCTCAGAATGAAAGGCTGGAAAACAATTTTCCAAGCAAATGGTATGAAGAAACAAGC
L1spaSp27to1597
 1538 ...................................................................... AC036146
 1536 ...................................................................... AC107832
 1539 ......................A............................................... AC122029
 1538 ...................................................................... AC122834
 1538 ...................................................................... AC124709
 1539 ......................A............................................T.. AC153559
 1538 ...................................................................... AL646046
 1538 ...................................................................... AL662923
 1538 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1620      1630      1640      1650      1660      1670      1680
      ---------+---------+---------+---------+---------+---------+---------+
 1610 AGGAGTAGCCATCCTAATATCTGATAAGATTGACTTCCAACCCAAAGTCATCAAAAAAGACAAGGAGGGA
L1spaSp27to1597
 1608 ...................................................................... AC036146
 1606 ...................................................................... AC107832
 1609 T.....................................................................G AC122029
 1608 ...................................................................... AC122834
 1608 ...................................................................... AC124709
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 1609 T....................................................................G AC153559
 1608 ...................................................................... AL646046
 1608 ...................................................................... AL662923
 1608 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1690      1700      1710      1720      1730      1740      1750
      ---------+---------+---------+---------+---------+---------+---------+
 1680 CACTTCATTCTCATCAAAGGTAAAATCCTCCAAGAGGAACTCTCAATTCTGAATATCTATGCTCCAAATA
L1spaSp27to1597
 1678 ...................................................................... AC036146
 1676 ...................................................................... AC107832
 1679 .....TG........G..............................................G....... AC122029
 1678 ...................................................................... AC122834
 1678 ...................................................................... AC124709
 1679 ......G............................................................... AC153559
 1678 ...................................................................... AL646046
 1678 ...................................................................... AL662923
 1678 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1760      1770      1780      1790      1800      1810      1820
      ---------+---------+---------+---------+---------+---------+---------+
 1750 CAAGAGCAGCCACATTCACTAAAGAAACTTTAGTAAAGCTCAAAGCACACATTGCGCCTCACACAATAAT
L1spaSp27to1597
 1748 ...................................................................... AC036146
 1746 ...................................................................... AC107832
 1749 ....G.............T....................................A.............. AC122029
 1748 ...................................................................... AC122834
 1748 ...................................................................... AC124709
 1749 ....G.............T....................................A.............. AC153559
 1748 ...................................................................... AL646046
 1748 ...................................................................... AL662923
 1748 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1830      1840      1850      1860      1870      1880      1890
      ---------+---------+---------+---------+---------+---------+---------+
 1820 AGTGGGAGACTTCAACACACCACTTTCACCAATGGACAGATCATGGAAACAGAAACTAAACAGGGACACA
L1spaSp27to1597
 1818 ...................................................................... AC036146
 1816 ...................................................................... AC107832
 1819 ...................................................................... AC122029
 1818 ...................................................................... AC122834
 1818 .........................................T............................ AC124709
 1819 ...................................................................... AC153559
 1818 ...................................................................... AL646046
 1818 ...................................................................... AL662923
 1818 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1900      1910      1920      1930      1940      1950      1960
      ---------+---------+---------+---------+---------+---------+---------+
 1890 CTGAAACTAACAGAAGTGATGAAACAAATGGATCTGACAGATATCTACAGAACATTTTACCCTAAAACAA
L1spaSp27to1597
 1888 ...........................................................T.......... AC036146
 1886 ...........................................................T.......... AC107832
 1889 ...........................................................T.......... AC122029
 1888 ...................................................................... AC122834
 1888 ...........................................................T.......... AC124709
 1889 ...........................................................T.......... AC153559
 1888 ...........................................................T.......... AL646046
 1888 ...................................................................... AL662923
 1888 ...........................................................T.......... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               1970      1980      1990      2000      2010      2020      2030
      ---------+---------+---------+---------+---------+---------+---------+
 1960 AAGGATATACCTTCTTCTCAGCACCTCATGGTACCTTCTCCAAAATTGACCACATAATAGGTCACAAATC
L1spaSp27to1597
 1958 ...................................................................... AC036146
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 1956 ...................................................................... AC107832
 1959 ....................................................................A. AC122029
 1958 ...................................................................... AC122834
 1958 ...................................................................... AC124709
 1959 ....................................................................A. AC153559
 1958 ...................................................................... AL646046
 1958 ...................................................................... AL662923
 1958 .........................................................C............ AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2040      2050      2060      2070      2080      2090      2100
      ---------+---------+---------+---------+---------+---------+---------+
 2030 AGGCCTCAACAGATTAAAAAATATTGAAATTGTCCCATGTATCCTATCAGATCACCATGCACTAAGGCTG
L1spaSp27to1597
 2028 ...............C...................................................... AC036146
 2026 ...............C...................................................... AC107832
 2029 ...............C..........................................A........... AC122029
 2028 ...............C...................................................... AC122834
 2028 ...............C...................................................... AC124709
 2029 ...............C...............T...................................... AC153559
 2028 ...............C...................................................... AL646046
 2028 ...............C...................................C.................. AL662923
 2028 ...............C...................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2110      2120      2130      2140      2150      2160      2170
      ---------+---------+---------+---------+---------+---------+---------+
 2100 ATCTTCAATAACAAAATAAATAACAGAAAGCCAACATTCACATGGAAACTGAACAACACTCTTCTCAATG
L1spaSp27to1597
 2098 ...................................................................... AC036146
 2096 ...................................T..........C....................... AC107832
 2099 ................A...................C....G............................ AC122029
 2098 ...................................................................... AC122834
 2098 ...................................................................... AC124709
 2099 ................A...................C....G............................ AC153559
 2098 ...................................................................... AL646046
 2098 ...................................................................... AL662923
 2098 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2180      2190      2200      2210      2220      2230      2240
      ---------+---------+---------+---------+---------+---------+---------+
 2170 ATACCTTGGTCAAGGAAGGAATAAAGAAAGAAATTAAAGACTTTTTAGAGTTTAATGAAAATGAAGCCAC
L1spaSp27to1597
 2168 ...................................................................... AC036146
 2166 ...................................................................... AC107832
 2169 ...................................................................... AC122029
 2168 ...................................................................... AC122834
 2168 ...................................................................... AC124709
 2169 ...................................................................... AC153559
 2168 ...................................................................... AL646046
 2168 ...................................................................... AL662923
 2168 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2250      2260      2270      2280      2290      2300      2310
      ---------+---------+---------+---------+---------+---------+---------+
 2240 AACGTACCCAAACCTTTGGGACACAATGAAAGCATTTCTAAGAGGGAAACTCATAGCTATGAGTGCCTTC
L1spaSp27to1597
 2238 ...................................................................... AC036146
 2236 ...................................................................... AC107832
 2239 ..........................................................C.........C. AC122029
 2238 ...................................................................... AC122834
 2238 ...................................................................... AC124709
 2239 ..........................................................C........GC. AC153559
 2238 ...................................................................... AL646046
 2238 ...................................................................... AL662923
 2238 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2320      2330      2340      2350      2360      2370      2380
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      ---------+---------+---------+---------+---------+---------+---------+
 2310 AAGAAAAAACGGGAGAGAGCACATACTAGCAGCTTGACAACACATCTAAAAGCTCTAGAAAAAAAGGAAG
L1spaSp27to1597
 2308 ...................................................................... AC036146
 2306 ...................................................................... AC107832
 2309 .T...G................................................................ AC122029
 2308 ...................................................................... AC122834
 2308 ...................................................................... AC124709
 2309 .T...G................................................................ AC153559
 2308 ...................................................................... AL646046
 2308 ...................................................................... AL662923
 2308 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2390      2400      2410      2420      2430      2440      2450
      ---------+---------+---------+---------+---------+---------+---------+
 2380 CAAATTCACCCAAGAGGAGTAGACGGCAGGAAATAATCAAACTCAGGGGTGAAATCAACCAAGTGGAAAC
L1spaSp27to1597
 2378 ...................................................................... AC036146
 2376 ...................................................................... AC107832
 2379 ...................................................................... AC122029
 2378 ...................................................................... AC122834
 2378 ...................................................................... AC124709
 2379 ...................................................................... AC153559
 2378 ...................................................................... AL646046
 2378 ...................................................................... AL662923
 2378 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2460      2470      2480      2490      2500      2510      2520
      ---------+---------+---------+---------+---------+---------+---------+
 2450 AAGAAGAACTATTCAAAGAATTAACCAAACGAGGAGTTGGTTCTTTGAGAAAATCAACAAGATAGATAAA
L1spaSp27to1597
 2448 ...................................................................... AC036146
 2446 ...................................................................... AC107832
 2449 ...................................................................... AC122029
 2448 ...................................................................... AC122834
 2448 ...................................................................... AC124709
 2449 ...................................................................... AC153559
 2448 ...................................................................... AL646046
 2448 ...................................................................... AL662923
 2448 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2530      2540      2550      2560      2570      2580      2590
      ---------+---------+---------+---------+---------+---------+---------+
 2520 CCCTTAGCTAGACTCACTAAAGGGCACAGGGACAAAATCCTAATTAACAAAATCAGAAATGAAAAGGGAG
L1spaSp27to1597
 2518 ...................................................................... AC036146
 2516 ...................................................................... AC107832
 2519 ...................G.........A............................C........... AC122029
 2518 ...................................................................... AC122834
 2518 ...................................................................... AC124709
 2519 ...................G.........A............................C........... AC153559
 2518 ...................................................................... AL646046
 2518 ...................................................................... AL662923
 2518 ..........................................................C........... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2600      2610      2620      2630      2640      2650      2660
      ---------+---------+---------+---------+---------+---------+---------+
 2590 ACATAACAACAGATCCTGAAGAAATCCAAAACACCATCAGATCCTTCTACAAAAGGCTATACTCAACAAA
L1spaSp27to1597
 2588 ...................................................................... AC036146
 2586 ...................................................................... AC107832
 2589 ...................................................................... AC122029
 2588 ...................................................................... AC122834
 2588 ...................................................................... AC124709
 2589 ...................................................................... AC153559
 2588 ...................................................................... AL646046
 2588 ...................................................................... AL662923
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 2588 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2670      2680      2690      2700      2710      2720      2730
      ---------+---------+---------+---------+---------+---------+---------+
 2660 ACTGGAAAACCTGGACGAAATGGACAAATTTCTGGACAGATACCAGGTACCAAAGTTGAATCAGGATCAA
L1spaSp27to1597
 2658 ...................................................................... AC036146
 2656 ...................................................................... AC107832
 2659 ........................T............................................. AC122029
 2658 ...................................................................... AC122834
 2658 ...................................................................... AC124709
 2659 ......................A............................................... AC153559
 2658 ...................................................................... AL646046
 2658 ...................................................................... AL662923
 2658 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2740      2750      2760      2770      2780      2790      2800
      ---------+---------+---------+---------+---------+---------+---------+
 2730 GTTGACCTTCTAAACAGTCCCATATCCCCTAAAGAAATAGAAGCAGTTATTAATAGTCTCCCAGCCAAAA
L1spaSp27to1597
 2728 ...................................................................... AC036146
 2726 ...................................................................... AC107832
 2729 ..................................................A................... AC122029
 2728 ...................................................................... AC122834
 2728 ...................................................................... AC124709
 2729 ..................................................A................... AC153559
 2728 ...................................................................... AL646046
 2728 ...................................................................... AL662923
 2728 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2810      2820      2830      2840      2850      2860      2870
      ---------+---------+---------+---------+---------+---------+---------+
 2800 AAAGCCCAGGACCAGACGGGTTTAGTGCAGAGTTCTATCAGACCTTCAAAGAAGATCTAACTCCAGTTCT
L1spaSp27to1597
 2798 ...................................................................... AC036146
 2796 ...................................................................... AC107832
 2799 ............................................................T......... AC122029
 2798 ...................................................................... AC122834
 2798 ...................................................................... AC124709
 2799 G...........T...............................................T......... AC153559
 2798 ...................................................................... AL646046
 2798 ...................................................................... AL662923
 2798 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2880      2890      2900      2910      2920      2930      2940
      ---------+---------+---------+---------+---------+---------+---------+
 2870 GCACAAACTTTTTCACAAGATAGAAGTAGAAGGTATTCTACCCAACTCATTTTATGAAGCCACTATTACT
L1spaSp27to1597
 2868 ...................................................................... AC036146
 2866 ...................................................................... AC107832
 2869 ...............................A...C.................................. AC122029
 2868 ...................................................................... AC122834
 2868 ...................................................................... AC124709
 2869 ...............................A...C.................................. AC153559
 2868 ...................................................................... AL646046
 2868 ...................................................................... AL662923
 2868 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               2950      2960      2970      2980      2990      3000      3010
      ---------+---------+---------+---------+---------+---------+---------+
 2940 CTGATACCTAAACCACAGAAAGATCCAACAAAGATAGAGAACTTCAGACCAATTTCTCTTATGAACATCG
L1spaSp27to1597
 2938 .................................................................T.... AC036146
 2936 .................................................................T.... AC107832
 2939 .................................................................T.... AC122029
 2938 ...................................................................... AC122834
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 2938 ...................................................................... AC124709
 2939 .................................................................T.... AC153559
 2938 ...................................................................... AL646046
 2938 ...................................................................... AL662923
 2938 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3020      3030      3040      3050      3060      3070      3080
      ---------+---------+---------+---------+---------+---------+---------+
 3010 ATGCAAAAATCCTTAATAAAATTCTCGCTAACCGAATCCAAGAACACATTAAAGCAATCATCCATCCTGA
L1spaSp27to1597
 3008 .............C........................................................ AC036146
 3006 .............C........................................................ AC107832
 3009 .............C........................................................ AC122029
 3008 ...................................................................... AC122834
 3008 ...................................................................... AC124709
 3009 .............C...........T............................................ AC153559
 3008 ..........T........................................................... AL646046
 3008 ...................................................................... AL662923
 3008 ..........T........................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3090      3100      3110      3120      3130      3140      3150
      ---------+---------+---------+---------+---------+---------+---------+
 3080 CCAAGTAGGTTTTATTCCAGGGATGCAGGGATGGTTTAATATACGAAAATCCATCAATGTAATCCATTAT
L1spaSp27to1597
 3078 .....................A................................................ AC036146
 3076 .....................A................................................ AC107832
 3079 .....................A............................................C... AC122029
 3078 ...................................................................... AC122834
 3078 ...................................................................... AC124709
 3079 .......C..........................................................C.C. AC153559
 3078 ...................................................................... AL646046
 3078 ...................................................................... AL662923
 3078 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3160      3170      3180      3190      3200      3210      3220
      ---------+---------+---------+---------+---------+---------+---------+
 3150 ATAAACAAACTCAAAGACAAAAACCACATGATCATCTCGTTAGATGCAGAAAAAGCATTTGACAAGATCC
L1spaSp27to1597
 3148 .................A.................................................... AC036146
 3146 ...............................A...................................... AC107832
 3149 .........................................G............................ AC122029
 3148 ...................................................................... AC122834
 3148 ...................................................................... AC124709
 3149 ...................................................................... AC153559
 3148 ...................................................................... AL646046
 3148 ...................................................................... AL662923
 3148 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3230      3240      3250      3260      3270      3280      3290
      ---------+---------+---------+---------+---------+---------+---------+
 3220 AACACCCATTCATGATAAAAGTTCTGGAAAGATCAGGAATTCAAGGCCAATACCTAAACATGATAAAAGC
L1spaSp27to1597
 3218 ...................................................................... AC036146
 3216 ...................................................................... AC107832
 3219 ................................................C..................... AC122029
 3218 ...................................................................... AC122834
 3218 ...................................................................... AC124709
 3219 ................................................C..................... AC153559
 3218 ...................................................................... AL646046
 3218 ...................................................................... AL662923
 3218 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3300      3310      3320      3330      3340      3350      3360
      ---------+---------+---------+---------+---------+---------+---------+
 3290 AATCTACAGCAAACCAGTAGCCAACATCAAAGTAAATGGAGAGAAGCTGGAAGCAATCCCACTAAAATCA
L1spaSp27to1597
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 3288 ...................................................................... AC036146
 3286 ...................................................................... AC107832
 3289 ...................................................................... AC122029
 3288 ...................................................................... AC122834
 3288 ...................................................................... AC124709
 3289 .................G.................................................... AC153559
 3288 ...................................................................... AL646046
 3288 ...................................................................... AL662923
 3288 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3370      3380      3390      3400      3410      3420      3430
      ---------+---------+---------+---------+---------+---------+---------+
 3360 GGGACTAGACAAGGCTGCCCACTTTCTCCCTACCTTTTCAACATAGTACTTGAAGTATTAGCCAGAGCAA
L1spaSp27to1597
 3358 ...................................................................... AC036146
 3356 ...................................................T.................. AC107832
 3359 ...................................................................... AC122029
 3358 ...................................................................... AC122834
 3358 ...................................................................... AC124709
 3359 ...................................................................... AC153559
 3358 ...................................................................... AL646046
 3358 ...................................................................... AL662923
 3358 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3440      3450      3460      3470      3480      3490      3500
      ---------+---------+---------+---------+---------+---------+---------+
 3430 TTCGACAACAAAAGGAGATCAAGGGGATACAAATTGGAAAAGAGGAAGTCAAAATATCACTTTTTGCAGA
L1spaSp27to1597
 3428 ...................................................................... AC036146
 3426 ...................................................................... AC107832
 3429 ........................................G............................. AC122029
 3428 ...................................................................... AC122834
 3428 ...................................................................... AC124709
 3429 ........................................G............................. AC153559
 3428 ...................................................................... AL646046
 3428 ...................................................................... AL662923
 3428 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3510      3520      3530      3540      3550      3560      3570
      ---------+---------+---------+---------+---------+---------+---------+
 3500 TGATATGATAGTATATATAAGTGACCCTAAAAATTCCAACAGAGAACTCCTAAACCTGATAAACAGCTTC
L1spaSp27to1597
 3498 ...................................................................... AC036146
 3496 ...................................................................... AC107832
 3499 ......................................C............................... AC122029
 3498 ...................................................................... AC122834
 3498 ...................................................................... AC124709
 3499 ......................................C............................... AC153559
 3498 ...................................................................... AL646046
 3498 ...................................................................... AL662923
 3498 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3580      3590      3600      3610      3620      3630      3640
      ---------+---------+---------+---------+---------+---------+---------+
 3570 GGTGAAGTAGCTGGATATAAAATTAACTCAAACAAGTCAATGGCCTTTCTCTACACAAAGAATAAACAGG
L1spaSp27to1597
 3568 ...................................................................... AC036146
 3566 ...................................................................... AC107832
 3569 ...................................................................... AC122029
 3568 ...................................................................... AC122834
 3568 ...................................................................... AC124709
 3569 ...................................................................... AC153559
 3568 ...................................................................... AL646046
 3568 ...................................................................... AL662923
 3568 ...................................................................... AL845483

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               3650      3660      3670      3680      3690      3700      3710
      ---------+---------+---------+---------+---------+---------+---------+
 3640 CTGAGAAAGAAATTAGGGAAACAACACCCTTCTCAATAGCCACAAATAATATAAAATATCTCGGCGTGAC
L1spaSp27to1597
 3638 ...................................................................... AC036146
 3636 ...................................................................... AC107832
 3639 .......................................T.............................. AC122029
 3638 ........................T............................................. AC122834
 3638 ...................................................................... AC124709
 3639 .......................................T........................A..... AC153559
 3638 ...................................................................... AL646046
 3638 ...................................................................... AL662923
 3638 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3720      3730      3740      3750      3760      3770      3780
      ---------+---------+---------+---------+---------+---------+---------+
 3710 TCTAACGAAGGAAGTGAAAGATCTGTATGATAAAAACTTCAAGTCCCTGAAGAAAGAAATTAAAGAAGAT
L1spaSp27to1597
 3708 ...................................................................... AC036146
 3706 ...................................................................... AC107832
 3709 ......T......................................T........................ AC122029
 3708 ...................................................................... AC122834
 3708 ...................................................................... AC124709
 3709 ......T......................................T........................ AC153559
 3708 ...................................................................... AL646046
 3708 ...................................................................... AL662923
 3708 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3790      3800      3810      3820      3830      3840      3850
      ---------+---------+---------+---------+---------+---------+---------+
 3780 CTCAGAAGATGGAAAGATCTCCCATGCTCATGGATTGGCAGGACCAACATTGTAAAAATGGCTATCTTGC
L1spaSp27to1597
 3778 ...................................................................... AC036146
 3776 ...................................................................... AC107832
 3779 ...........................................T...T...................... AC122029
 3778 ...................................................................... AC122834
 3778 ...................................................................... AC124709
 3779 ...........................................T.......................... AC153559
 3778 ...................................................................... AL646046
 3778 ...................................................................... AL662923
 3778 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3860      3870      3880      3890      3900      3910      3920
      ---------+---------+---------+---------+---------+---------+---------+
 3850 CAAAAGCAATCTACAGATTCAATGCAATCCCCATTAAAATTCCAACTCAATTCTTCAACGAATTAGAAGG
L1spaSp27to1597
 3848 ...................................................................... AC036146
 3846 ...................................................................... AC107832
 3849 ..................................C................................... AC122029
 3848 ...................................................................... AC122834
 3848 ...................................................................... AC124709
 3849 ..................................C................................... AC153559
 3848 ...................................................................... AL646046
 3848 ...................................................................... AL662923
 3848 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               3930      3940      3950      3960      3970      3980      3990
      ---------+---------+---------+---------+---------+---------+---------+
 3920 AGCAATTTGCAAATTCATCTGGAATAACAAAAAA-CCGAGGATAGCAAAAACTCTTCTCAAGGATAAAAG
L1spaSp27to1597
 3918 ..................................-................................... AC036146
 3916 ..................................-................................... AC107832
 3919 ..................................-..T................................ AC122029
 3918 ..................................-................................... AC122834
 3918 ..................................-................................... AC124709
 3919 ..................................A..T................................ AC153559
 3918 ..................................-................................... AL646046
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 3918 ..................................-................................... AL662923
 3918 ..................................-................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4000      4010      4020      4030      4040      4050      4060
      ---------+---------+---------+---------+---------+---------+---------+
 3989 AACCTCTGGTGGAATCACCATGCCTGACCTAAAGCTTTACTACAGAGCAATTGTGATAAAAACTGCATGG
L1spaSp27to1597
 3987 ...................................................................... AC036146
 3985 ...................................................................... AC107832
 3988 .......................................................G.............. AC122029
 3987 ...................................................................... AC122834
 3987 ...................................................................... AC124709
 3989 ...................................................................... AC153559
 3987 ...................................................................... AL646046
 3987 ...................................................................... AL662923
 3987 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4070      4080      4090      4100      4110      4120      4130
      ---------+---------+---------+---------+---------+---------+---------+
 4059 TACTGGTATAGAGACAGACAAGTAGACCAATGGAATAGAATTGAAGACCCAGAAATGAACCCACACACCT
L1spaSp27to1597
 4057 .......................G.............................................. AC036146
 4055 .......................G.............................................. AC107832
 4058 ...................................................................... AC122029
 4057 .......................G.............................................. AC122834
 4057 .......................G.............................................. AC124709
 4059 ...................................................................... AC153559
 4057 .......................G.............................................. AL646046
 4057 .......................G.............................................. AL662923
 4057 .......................G.............................................. AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4140      4150      4160      4170      4180      4190      4200
      ---------+---------+---------+---------+---------+---------+---------+
 4129 ATGGTCACTTGATCTTCGACAAGGGAGCCAAAACCATCCAGTGGAAGAAAGACAGCATTTTCAACAATTG
L1spaSp27to1597
 4127 ...................................................................... AC036146
 4125 ...................................................................... AC107832
 4128 ............................T......................................A.. AC122029
 4127 ...................................................................... AC122834
 4127 ...................................................................... AC124709
 4129 ............................T......................................... AC153559
 4127 ...................................................................... AL646046
 4127 ...................................................................... AL662923
 4127 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4210      4220      4230      4240      4250      4260      4270
      ---------+---------+---------+---------+---------+---------+---------+
 4199 GTGCTGGCACAACTGGTTGTTATCATGTAGAAGAATGCGAATCGATCCATACTTATCTCCTTGTACTAAG
L1spaSp27to1597
 4197 ...................................................................... AC036146
 4195 ..................................................T................... AC107832
 4198 ...................................................................... AC122029
 4197 ...................................................................... AC122834
 4197 ...................................................................... AC124709
 4199 ............................................................C......... AC153559
 4197 ...................................................................... AL646046
 4197 ...................................................................... AL662923
 4197 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4280      4290      4300      4310      4320      4330      4340
      ---------+---------+---------+---------+---------+---------+---------+
 4269 GTCAAATCTAAGTGGATCAAGGAACTTCACATAAAACCAGAGACACTGAAACTTATAGAGGAGAAAGTGG
L1spaSp27to1597
 4267 ....................A................................................. AC036146
 4265 ...................................................................... AC107832
 4268 ...........A........A................................................. AC122029
```

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 4267 ...................................................................... AC122834
 4267 ...................................................................... AC124709
 4269 ...........A........A................................................. AC153559
 4267 ...................................................................... AL646046
 4267 ...................................................................... AL662923
 4267 ...........A........A................................................. AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4350      4360      4370      4380      4390      4400      4410
      ---------+---------+---------+---------+---------+---------+---------+
 4339 GGAAAAGTCTTGAAGATATGGGCACAGGGGAAAAATTCCTGAACAGAACAGCAATGGCTTGTGCTGTAAG
L1spaSp27to1597
 4337 .......C.............................................................. AC036146
 4335 .......C.............................................................. AC107832
 4338 .......C.............................................................. AC122029
 4337 .......C.............................................................. AC122834
 4337 .......C.............................................................. AC124709
 4339 .......CT............................................................. AC153559
 4337 .......C.............................................................. AL646046
 4337 .......C.............................................................. AL662923
 4337 .......C.............................................................. AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4420      4430      4440      4450      4460      4470      4480
      ---------+---------+---------+---------+---------+---------+---------+
 4409 ATCGAGAATTGACAAATGGGACCTAATGAAACTCCAAAGTTTCTGCAAGGCAAAAGACACTGTCTATAAG
L1spaSp27to1597
 4407 ..T................................................................... AC036146
 4405 ...................................................................... AC107832
 4408 ............................................................C...A..... AC122029
 4407 ...................................................................... AC122834
 4407 ...................................................................... AC124709
 4409 ..T.........................................................C...A..... AC153559
 4407 ...................................................................... AL646046
 4407 ...................................................................... AL662923
 4407 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4490      4500      4510      4520      4530      4540      4550
      ---------+---------+---------+---------+---------+---------+---------+
 4479 ACAAAAAGACCACCAACAGACTGGGAAAGGATCTTTACCTATCCTAAATCAGATAGGGGACTAATATCCA
L1spaSp27to1597
 4477 ...................................................................... AC036146
 4475 ...................................................................... AC107832
 4478 .....G..............T................................................. AC122029
 4477 ...................................................................... AC122834
 4477 ...................................................................... AC124709
 4479 .....G..............T................................................. AC153559
 4477 ...................................................................... AL646046
 4477 ...................................................................... AL662923
 4477 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4560      4570      4580      4590      4600      4610      4620
      ---------+---------+---------+---------+---------+---------+---------+
 4549 ACATATATAAAGAACTCAAGAAGGTGGACCTCAGAAAATCAAATAACCCCCTTAAAAAATGGGGCTCAGA
L1spaSp27to1597
 4547 ...................................................................... AC036146
 4545 ...................................................................... AC107832
 4548 .............................T.............C......A................... AC122029
 4547 ...................................................................... AC122834
 4547 ...................................................................... AC124709
 4549 .............................T....................A................... AC153559
 4547 ...................................................................... AL646046
 4547 ...................................................................... AL662923
 4547 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4630      4640      4650      4660      4670      4680      4690
      ---------+---------+---------+---------+---------+---------+---------+
```

```
 4619 ACTGAACAAAGAATTCTCACCTGAGGAATACCGAATGGCAGAGAAGCACCTGAAAAAATGTTCAACATCC
L1spaSp27to1597
 4617 ................                                                       AC036146
 4615 ...................................................................... AC107832
 4618 ...................................................................... AC122029
 4617 ...................................................................... AC122834
 4617 ...................................................................... AC124709
 4619 ...................................................................... AC153559
 4617 ...................................................................... AL646046
 4617 ...................................................................... AL662923
 4617 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4700      4710      4720      4730      4740      4750      4760
      ---------+---------+---------+---------+---------+---------+---------+
 4689 TTAATCATCAGGGAAATGCAAATCAAAACAACCCTGAGATTCCACCTCACACCAGTGAGAATGGCTAAGA
L1spaSp27to1597
 4632                                                                        AC036146
 4685 ...................................................................... AC107832
 4688 ........................................................C......T...... AC122029
 4687 ...................................................................... AC122834
 4687 ...................................................................... AC124709
 4689 ........................................................C......T...... AC153559
 4687 ...................................................................... AL646046
 4687 ...................................A.................................. AL662923
 4687 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4770      4780      4790      4800      4810      4820      4830
      ---------+---------+---------+---------+---------+---------+---------+
 4759 TCAAAAATTCAGGTGACAGCAGATGCTGGCGAGGATGTGGAGAAAGAGGAACACTCCTCCATTGTTGGTG
L1spaSp27to1597
 4632                                                                        AC036146
 4755 ...................................................................... AC107832
 4758 ...................................................................... AC122029
 4757 ...................................................................... AC122834
 4757 ...................................................................... AC124709
 4759 ...............................T...................................... AC153559
 4757 ...................................................................... AL646046
 4757 ...................................................................... AL662923
 4757 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4840      4850      4860      4870      4880      4890      4900
      ---------+---------+---------+---------+---------+---------+---------+
 4829 GGATTGCAGGCTTGTACAACCACTCTGGAAATCAGTCTGGCGGTTCCTCAGAAAATTGGACATAGTACTA
L1spaSp27to1597
 4632                                                                        AC036146
 4825 ...................................................................... AC107832
 4828 .................................C.................................... AC122029
 4827 ...................................................................... AC122834
 4827 ...................................................................... AC124709
 4829 ...................A.......A.....C.................................... AC153559
 4827 ...................................................................... AL646046
 4827 ........................................T.......T..................... AL662923
 4827 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               4910      4920      4930      4940      4950      4960      4970
      ---------+---------+---------+---------+---------+---------+---------+
 4899 CCGGAGGATCCAGCAATACCTCTCCTGGGCATATATCCAGAAGAAGCCCCAACTGGTAAGAAGGACACAT
L1spaSp27to1597
 4632                                                                        AC036146
 4895 ...................................................................... AC107832
 4898 ............................................T......................... AC122029
 4897 ...................................................................... AC122834
 4897 ...................................................................... AC124709
 4899 ..........................A.................T......................... AC153559
 4897 ...................................................................... AL646046
 4897 ...................................................................... AL662923
 4897 ...................................................................... AL845483
```

```
      ---------+---------+---------+---------+---------+---------+---------+
               4980      4990      5000      5010      5020      5030      5040
      ---------+---------+---------+---------+---------+---------+---------+
 4969 GCTCCACTATGTTCATAGCAGCCTTATTTATAATAGCCAGAAACTGGAAAGAACCCAGATGCCCCTCAAC
L1spaSp27to1597
 4632                                                                        AC036146
 4965 ...................................................................... AC107832
 4968 ..........................................G........................... AC122029
 4967 ...................................................................... AC122834
 4967 ...................................................................... AC124709
 4969 ..........................................G........................... AC153559
 4967 ...................................................................... AL646046
 4967 ...................................................................... AL662923
 4967 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5050      5060      5070      5080      5090      5100      5110
      ---------+---------+---------+---------+---------+---------+---------+
 5039 AGAGGAATGGATACAGAAAATGTGGTACATCTACACAATGGAGTACTACTCAGCTATTAAAAAGAATGAA
L1spaSp27to1597
 4632                                                                        AC036146
 5035 ...................................................................... AC107832
 5038 ...................................................................... AC122029
 5037 ...................................................................... AC122834
 5037 ...................................................................... AC124709
 5039 ...................................................................... AC153559
 5037 ............................................................G......... AL646046
 5037 ...................................................................... AL662923
 5037 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5120      5130      5140      5150      5160      5170      5180
      ---------+---------+---------+---------+---------+---------+---------+
 5109 TTTATGAAATTCCTAGCCAAATGGATGGACCTGGAGAGCATCATCCTGAGTGAGGTAACACAATCACAAA
L1spaSp27to1597
 4632                                                                        AC036146
 5105 ................G..................................................... AC107832
 5108 ....................................G.........................T....... AC122029
 5107 ...................................................................... AC122834
 5107 ...................................................................... AC124709
 5109 ....................................G.........................T....... AC153559
 5107 ...................................................................... AL646046
 5107 ...................................................................... AL662923
 5107 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5190      5200      5210      5220      5230      5240      5250
      ---------+---------+---------+---------+---------+---------+---------+
 5179 GGAACTCACACAATATGTACTCACTGATAAGTGGATACTAGCCCAAAACCTAGGATACCCACGATATAAG
L1spaSp27to1597
 4632                                                                        AC036146
 5175 ...................................................................... AC107832
 5178 .....................................T.......................A........ AC122029
 5177 ...................................................................... AC122834
 5177 ...................................................................... AC124709
 5179 .....................................T.......................A........ AC153559
 5177 .........................................T............................ AL646046
 5177 ...................................................................... AL662923
 5177 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5260      5270      5280      5290      5300      5310      5320
      ---------+---------+---------+---------+---------+---------+---------+
 5249 ATACAATTTCCTAAACACATGAAACTCAAGAAAAATGAAGACTGAAGTGTGGACACTATGCCCCTCCTTA
L1spaSp27to1597
 4632                                                                        AC036146
 5245 ..........................................................G........... AC107832
 5248 ...................................................................... AC122029
 5247 ...................................................................... AC122834
 5247 ......................................G............................... AC124709
```

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 5249 ...................................................................... AC153559
 5247 ...................................................................... AL646046
 5247 ...................................................................... AL662923
 5247 ................................................A..................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5330      5340      5350      5360      5370      5380      5390
      ---------+---------+---------+---------+---------+---------+---------+
 5319 GAAGTGGGAACAAAACA----CCCATGGAAGGAGTTACAGAAACAAAGTTTGGAGCTGAGATGAAAGGAG
L1spaSp27to1597
 4632                                                                        AC036146
 5315 .................----............................A...................T AC107832
 5318 .................----...T................G...........................T AC122029
 5317 .................----................................................T AC122834
 5317 .................----................................................T AC124709
 5319 .................AACA...T................G...........................T AC153559
 5317 .................----............................A...................T AL646046
 5317 .................----...................T........A...................T AL662923
 5317 .................----............................A...................T AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5400      5410      5420      5430      5440      5450      5460
      ---------+---------+---------+---------+---------+---------+---------+
 5385 GGACCATGTAGAGACTGCCATATCCAGGGATCCACCCCATAATCAGCATCCAAACGCTGACACCATTGCA
L1spaSp27to1597
 4632                                                                        AC036146
 5381 ...............................................T......T............... AC107832
 5384 ..G................T.................................................. AC122029
 5383 ...................................................................... AC122834
 5383 ...................................................................... AC124709
 5389 ...................T.......................................T.......... AC153559
 5383 ...............................................T......T............... AL646046
 5383 ...............................................T......T............... AL662923
 5383 ...............................................T......T............... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5470      5480      5490      5500      5510      5520      5530
      ---------+---------+---------+---------+---------+---------+---------+
 5455 TATACTAGCAAGATTTTATCGAAAGGACCCAGATGTAGCTGTCTCTTGTGAGACTATGCCGGGGCCTAGC
L1spaSp27to1597
 4632                                                                        AC036146
 5451 ..C...............CT.................................................. AC107832
 5454 ..C................................................................... AC122029
 5453 ...................................................................... AC122834
 5453 ...................................................................... AC124709
 5459 ..C....................................................T.............. AC153559
 5453 ..C...............CT.................................................. AL646046
 5453 ..C...............CT.................................................. AL662923
 5453 ..C...............CT.................................................. AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5540      5550      5560      5570      5580      5590      5600
      ---------+---------+---------+---------+---------+---------+---------+
 5525 AAACACAGAAGTGGATGCTCACAGTCAGCTAATGGATGGATCACAGGGCTCCCAATGGAGGAGCTAGAGA
L1spaSp27to1597
 4632                                                                        AC036146
 5521 ...................................................................... AC107832
 5524 ...................................G.....T............................ AC122029
 5523 ...................................................................... AC122834
 5523 ...................................................................... AC124709
 5529 ..................C................................................... AC153559
 5523 ...................................................................... AL646046
 5523 ...................................................................... AL662923
 5523 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5610      5620      5630      5640      5650      5660      5670
      ---------+---------+---------+---------+---------+---------+---------+
 5595 AAGTACCCAAGGAGCTAAAGGGATCTGCAACCCTATAGGTGGAACAACATTATGAACTAACCAGTACCCC
L1spaSp27to1597
 4632                                                                        AC036146
```

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 5591 ..........................T........................................... AC107832
 5594 ...................................................................... AC122029
 5593 ..........................T........................................... AC122834
 5593 ..........................T........................................... AC124709
 5599 ...........................................T.......................... AC153559
 5593 ..........................T........................................... AL646046
 5593 ..........................T........................................... AL662923
 5593 ..........................T........................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5680      5690      5700      5710      5720      5730      5740
      ---------+---------+---------+---------+---------+---------+---------+
 5665 TGAGCTCTTGACTCTAGCTGCATATGTATCAAAAGATGGCCTAGTCGGCCATCACTGGAAAGAGAGGCCC
L1spaSp27to1597
 4632                                                                        AC036146
 5661 ...................................................................... AC107832
 5664 A..................................................................... AC122029
 5663 ...................................................................... AC122834
 5663 ...................................................................... AC124709
 5669 A..................................................................... AC153559
 5663 ...................................................................... AL646046
 5663 ...................................................................... AL662923
 5663 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5750      5760      5770      5780      5790      5800      5810
      ---------+---------+---------+---------+---------+---------+---------+
 5735 ATTGGACACGCAGACTTTGTGTGCCCCGGTACAGGGGAACGCCAGGGCCAAAGGGGGGGGAGTGGGTGGG
L1spaSp27to1597
 4632                                                                        AC036146
 5731 ...........................................................-.......... AC107832
 5734 .........A..A.....A.A......A.A......................AA.....-......C... AC122029
 5733 ...........................................................-.......... AC122834
 5733 ...........................................................-...A.A.... AC124709
 5739 .........A..A.....A.A......A.A......................AA.....-......C... AC153559
 5733 ...........................................................-.......... AL646046
 5733 ...........................................T...............-.......... AL662923
 5733 ...........................................................-......A... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5820      5830      5840      5850      5860      5870      5880
      ---------+---------+---------+---------+---------+---------+---------+
 5805 TAGGGGAGTGGGGGTGGGTGGGTAAGGGGGACTTTTGGTATAGCATTGGAAATGTAAATGAGCTAAATAC
L1spaSp27to1597
 4632                                                                        AC036146
 5800 .................................................................C.... AC107832
 5803 ........................T............................................. AC122029
 5802 ...................................................................... AC122834
 5802 ...................................................................... AC124709
 5808 ........................T.................................C........... AC153559
 5802 ...................................................................... AL646046
 5802 .......A.............................................................. AL662923
 5802 ...................................................................... AL845483

      ---------+---------+---------+---------+---------+---------+---------+
               5890      5900      5910      5920      5930      5940      5950
      ---------+---------+---------+---------+---------+---------+---------+
 5875 CTAATAAAAAATGGA-AAAAAAATAAAAAAA--ATAAA-ATAAAAAAAAAGACCATGAAACATAAAAAAA
L1spaSp27to1597
 4632                                                                        AC036146
 5870 ...........------TGG...A......------..-GA.T.......A.AA.AA.GTA.CTCTTTCT AC107832
 5873 ............T.GA..G....A.......AA.A.G.C.AGG..G..GGA.A.C..CTCTC.GTGCC.G AC122029
 5872 ...............A.......A.......AA.A...---G-..T.TG-----T..CTCTCA.T-T... AC122834
 5872 ...............A.......A..TTCTTAATCTC.TC.CC...G.C.TCTTTGCCTTA.A..GTC.  AC124709
 5878 ............-.GA..G....A.....GTGC.CGTCCTAT.CCTGCC.AGGA.AA.GTAC.GCCTTTT AC153559
 5872 ...............-.......A.......TGGG...-.A.........A.AA.AA..GA......G.G AL646046
 5872 ...........------...T..AT.....TT-.C...-.AGC.......A.AA.AA...A.A....... AL662923
 5872 ...........AAA.T.......A.....G.AAT..C.-GA....T...G.TA..GC..G..A....... AL845483
```

Supplemental figure 5. Alignment of the spliced L1 elements identified in the mouse genome. Sequences of the full-length mouse L1 elements that underwent splicing (SD and SA sites at positions 27 and 1597 L1spa sequence respectively) and retrotransposed were extracted from the mouse genome and aligned by ClustalW against the L1spa sequence spliced in the same manner (L1spaSp27to1597). Nucleotides that do not match L1spa sequence are shown. Accession numbers corresponding to each contig containing these sequences and chromosome numbers are shown on the right.

```
       ---------+---------+---------+---------+---------+---------+---------+
                10        20        30        40        50        60        70
       ---------+---------+---------+---------+---------+---------+---------+
     1 CGGAACTTAGGAAATTAGTCTGAACAGGTGAGAGGGTGCGCCAGAGAACCTGACAGCTTCTGGAACAGGC
L1spaSp239to1597
     1 --.................................................................... AC036146
     1 --.................................................................... AC122834
     1 --.........G.......................................................... AC124709
     1 --.................................................................... AL671880
     1 -------------------------............................................. AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                80        90        100       110       120       130       140
       ---------+---------+---------+---------+---------+---------+---------+
    71 GGAAGCACAGAGGCGCTGAGGCATCACCCTGTGTGGGCCGGGGACAGCCGGCCACCTTCTGGACCAGAGG
L1spaSp239to1597
    69 .......................G...................................C.....G.... AC036146
    69 ..............A........G.........................A......A........G.... AC122834
    69 .......................G......T.........................G..C.....G.... AC124709
    69 .......................G...................................C.....G.... AL671880
    46 A............G.........G...................................C.....G.... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                150       160       170       180       190       200       210
       ---------+---------+---------+---------+---------+---------+---------+
   141 ACAGGTGCCCGCCCGGCTGGGGAGGCGGCCTAAGCCACAGCAGCAGCGGTCGCCATCTTGGTCCGGGACC
L1spaSp239to1597
   139 .................................................................A.... AC036146
   139 ...................................................................... AC122834
   139 ...........T...................GG................................A.... AC124709
   139 .................................................................A.... AL671880
   116 ...........................A.......................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                220       230       240       250       260       270       280
       ---------+---------+---------+---------+---------+---------+---------+
   211 CGCCGAACTTAGGAAATTAGTCTGAACAGGGAGGAGGTCCAAATACAAGATATCTGCGCACCTTCCCTGT
L1spaSp239to1597
   209 .A............................-....................................... AC036146
   209 ..............................-.....A................................. AC122834
   209 ..............................-....................................... AC124709
   209 .A............................-....................................... AL671880
   186 ..............................-....................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                290       300       310       320       330       340       350
       ---------+---------+---------+---------+---------+---------+---------+
   281 AAGAGAGCTTGCCAGCAGAGAGTGCTCTGAGCACTGAAACTCAGAGGAGAGAATCTGTCTCCCAGGTCTG
L1spaSp239to1597
   278 ...................................................................... AC036146
   278 ...................................................................... AC122834
   278 ...................................................................... AC124709
   278 ...................................................................... AL671880
   255 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                360       370       380       390       400       410       420
       ---------+---------+---------+---------+---------+---------+---------+
   351 CTGATAGACGGTAACAGAATCACCAGAAGAACAATCTCTAAACAGAGTCAACTATAACTACTAACTCCAG
L1spaSp239to1597
   348 ...................................................................... AC036146
   348 ...................................................................... AC122834
   348 ....C................................................................. AC124709
   348 ...................................................................... AL671880
   325 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                430       440       450       460       470       480       490
       ---------+---------+---------+---------+---------+---------+---------+
   421 AGATTACCAGATGGCGAAAGGTAAACGGAGGAATCTTACTAACAGGAACCAAGACCACTCACCATCACCA
L1spaSp239to1597
```

```
   418 ...................................................................... AC036146
   418 ...................................................................... AC122834
   418 ...................................................................... AC124709
   418 ...................................................................... AL671880
   395 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                500       510       520       530       540       550       560
       ---------+---------+---------+---------+---------+---------+---------+
   491 GAACCCAGCACACCCACTTCGCCCAGTCCAGGGAACCCCAACACACCTGAGAACCTAGACCTAGATTTAA
L1spaSp239to1597
   488 ...................................................................... AC036146
   488 ............................................................T......... AC122834
   488 ...................................................................... AC124709
   488 ...................................................................... AL671880
   465 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                570       580       590       600       610       620       630
       ---------+---------+---------+---------+---------+---------+---------+
   561 AAGCATATCTCATGATGATGGTAGAGGGCATCAAGAAGGACTTTAATAAATCACTTAAAGAAATACAGGA
L1spaSp239to1597
   558 ...........................A.......................................... AC036146
   558 ...........................A.......................................... AC122834
   558 ...........................A.......................................... AC124709
   558 ...........................A.......................................... AL671880
   535 ...........................A.......................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                640       650       660       670       680       690       700
       ---------+---------+---------+---------+---------+---------+---------+
   631 GAACACTGCTAAAGAGTTACAAGTCCTTAAAGAAAAACAGGAAAACACAATCAAACAGGTAGAAGTCCTT
L1spaSp239to1597
   628 ...................................................................... AC036146
   628 ...................................................................... AC122834
   628 ...................................................................... AC124709
   628 ...................................................................... AL671880
   605 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                710       720       730       740       750       760       770
       ---------+---------+---------+---------+---------+---------+---------+
   701 ACAGAAAAAGAGGAAAAAACATACAAACAGGTGATGGAAATGAACAAAACCATACTAGACCTAAAAAGGG
L1spaSp239to1597
   698 ...................................................................... AC036146
   698 ...................................................................... AC122834
   698 ...................................................................... AC124709
   698 ...................................................................... AL671880
   675 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                780       790       800       810       820       830       840
       ---------+---------+---------+---------+---------+---------+---------+
   771 AAGTAGACACAATAAAGAAAACTCAAAGCGAGGCAACACTAGAGATAGAAACCCTAGGAAAGAAATCTGG
L1spaSp239to1597
   768 ...................................................................... AC036146
   768 ...................................................................... AC122834
   768 ...................................................................... AC124709
   768 ...................................................................... AL671880
   745 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                850       860       870       880       890       900       910
       ---------+---------+---------+---------+---------+---------+---------+
   841 AACCATAGATTTGAGCATCAGCAACAGAATACAAGAGATGGAAGAGAGAATCTCAGGTGCAGAACATTCC
L1spaSp239to1597
   838 ................................................................G..... AC036146
   838 ................................................................G..... AC122834
   838 ................................................................G..... AC124709
   838 ................................................................G..... AL671880
   815 ................................................................G..... AL845483
```

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       ---------+---------+---------+---------+---------+---------+---------+
                920       930       940       950       960       970       980
       ---------+---------+---------+---------+---------+---------+---------+
   911 ATAGAGAACATCGGCACAACAATCAAAGAAAATGGAAAATGCAAAAAGATCCTAACTCAAAATATCCAGG
L1spaSp239to1597
   908 ...................................................................... AC036146
   908 ...................................................................... AC122834
   908 ...................................................................... AC124709
   908 ...................................................................... AL671880
   885 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                990       1000      1010      1020      1030      1040      1050
       ---------+---------+---------+---------+---------+---------+---------+
   981 AAATCCAGGACACAATAAGAAGACCAAACGTACGGATAATAGGAGTGGATGAGAATGAAGATTTTCAACT
L1spaSp239to1597
   978 ...................................................................... AC036146
   978 ...................................................................... AC122834
   978 ...................................................................... AC124709
   978 ...................................................................... AL671880
   955 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1060      1070      1080      1090      1100      1110      1120
       ---------+---------+---------+---------+---------+---------+---------+
  1051 CAAAGGTCCAGCAAACATCTTCAACAAAATTATTGAAGAAAACTTCCCAAATCTAAAGAATGAGATGCAT
L1spaSp239to1597
  1048 ...................................................................... AC036146
  1048 ...................................................................... AC122834
  1048 ...................................................................... AC124709
  1048 ...................................................................... AL671880
  1025 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1130      1140      1150      1160      1170      1180      1190
       ---------+---------+---------+---------+---------+---------+---------+
  1121 ATGAACATACAAGAAGCCTACAGAACTCCAAATAGACTGGACCAGAAAAGAAATTCCTCCCGACACATAA
L1spaSp239to1597
  1118 ...................................................................... AC036146
  1118 ...................................................................... AC122834
  1118 ...................................................................... AC124709
  1118 ...................................................................... AL671880
  1095 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1200      1210      1220      1230      1240      1250      1260
       ---------+---------+---------+---------+---------+---------+---------+
  1191 TAATCAGAACATCAAATGCACTAAATAAAGATAGAATACTAAAAGCAGTAAGGGAAAAAGGTCAAGTAAC
L1spaSp239to1597
  1188 ...................................................................... AC036146
  1188 ...................................................................... AC122834
  1188 ...................................................................... AC124709
  1188 ...................................................................... AL671880
  1165 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1270      1280      1290      1300      1310      1320      1330
       ---------+---------+---------+---------+---------+---------+---------+
  1261 ATATAAAGGCAAGCCTATCAGAATTACACCAGATTTTTCACCAGAGACTATGAAAGCCAGAAGAGCCTGG
L1spaSp239to1597
  1258 ...................................................................... AC036146
  1258 ...................................................................... AC122834
  1258 ...................................................................... AC124709
  1258 ...................................................................... AL671880
  1235 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1340      1350      1360      1370      1380      1390      1400
       ---------+---------+---------+---------+---------+---------+---------+
```

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  1331 ACAGATGTTATACAGACACTAAGAGAACACAAACTGCAGCCCAGGCTACTATACCCAGCCAAACTCTCAA
L1spaSp239to1597
  1328 ...................................................................... AC036146
  1328 ...................................................................... AC122834
  1328 ...................................................................... AC124709
  1328 ...................................................................... AL671880
  1305 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1410      1420      1430      1440      1450      1460      1470
       ---------+---------+---------+---------+---------+---------+---------+
  1401 TTATCATAGAGGGAGAAACCAAAGTATTCCACGACAAAACCAAATTCACGCATTATCTCTCCACGAATCC
L1spaSp239to1597
  1398 .................................................A.................... AC036146
  1398 ...................................................................... AC122834
  1398 ...................................................................... AC124709
  1398 .................................................A.................... AL671880
  1375 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1480      1490      1500      1510      1520      1530      1540
       ---------+---------+---------+---------+---------+---------+---------+
  1471 AGCCCTTCAAAGGATAATAACAGAAAAAAACCAATACAAGAACGGGAACAACGCCCTAGAAAAAACAAGA
L1spaSp239to1597
  1468 ...................................................................... AC036146
  1468 ...................................................................... AC122834
  1468 ...................................................................... AC124709
  1468 ...................................................................... AL671880
  1445 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1550      1560      1570      1580      1590      1600      1610
       ---------+---------+---------+---------+---------+---------+---------+
  1541 AGGTAATCCCTCAACAAACCTAAAAGAAGACAGCCACAAGAACAGAATGCCACCTTTAACAACTAAAATA
L1spaSp239to1597
  1538 ...................................................................... AC036146
  1538 ...................................................................... AC122834
  1538 ...................................................................... AC124709
  1538 ...................................................................... AL671880
  1515 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1620      1630      1640      1650      1660      1670      1680
       ---------+---------+---------+---------+---------+---------+---------+
  1611 ACAGGAAGCAACAATTACTTTTCCTTAATATCTCTTAACATCAATGGTCTCAACTCGCCAATAAAAAGAC
L1spaSp239to1597
  1608 ...................................................................... AC036146
  1608 ...................................................................... AC122834
  1608 ..................C................................................... AC124709
  1608 ...................................................................... AL671880
  1585 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1690      1700      1710      1720      1730      1740      1750
       ---------+---------+---------+---------+---------+---------+---------+
  1681 ATAGACTAACAAACTGGCTACACAAACAAGACCCAACATTTTGCTGCTTACAGGAAACTCATCTCAGAGA
L1spaSp239to1597
  1678 ...................................................................... AC036146
  1678 ...................................................................... AC122834
  1678 ...................................................................... AC124709
  1678 ...................................................................... AL671880
  1655 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1760      1770      1780      1790      1800      1810      1820
       ---------+---------+---------+---------+---------+---------+---------+
  1751 AAAAGATAGACACTACCTCAGAATGAAAGGCTGGAAAACAATTTTCCAAGCAAATGGTATGAAGAAACAA
L1spaSp239to1597
  1748 ...................................................................... AC036146
  1748 ...................................................................... AC122834
  1748 ...................................................................... AC124709
```

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  1748 ...................................................................... AL671880
  1725 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1830      1840      1850      1860      1870      1880      1890
       ---------+---------+---------+---------+---------+---------+---------+
  1821 GCAGGAGTAGCCATCCTAATATCTGATAAGATTGACTTCCAACCCAAAGTCATCAAAAAAGACAAGGAGG
L1spaSp239to1597
  1818 ...................................................................... AC036146
  1818 ...................................................................... AC122834
  1818 ...................................................................... AC124709
  1818 ...................................................................... AL671880
  1795 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1900      1910      1920      1930      1940      1950      1960
       ---------+---------+---------+---------+---------+---------+---------+
  1891 GACACTTCATTCTCATCAAAGGTAAAATCCTCCAAGAGGAACTCTCAATTCTGAATATCTATGCTCCAAA
L1spaSp239to1597
  1888 ...................................................................... AC036146
  1888 ...................................................................... AC122834
  1888 ...................................................................... AC124709
  1888 ...................................................................... AL671880
  1865 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                1970      1980      1990      2000      2010      2020      2030
       ---------+---------+---------+---------+---------+---------+---------+
  1961 TACAAGAGCAGCCACATTCACTAAAGAAACTTTAGTAAAGCTCAAAGCACACATTGCGCCTCACACAATA
L1spaSp239to1597
  1958 ...................................................................... AC036146
  1958 ...................................................................... AC122834
  1958 ...................................................................... AC124709
  1958 ...................................................................... AL671880
  1935 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2040      2050      2060      2070      2080      2090      2100
       ---------+---------+---------+---------+---------+---------+---------+
  2031 ATAGTGGGAGACTTCAACACACCACTTTCACCAATGGACAGATCATGGAAACAGAAACTAAACAGGGACA
L1spaSp239to1597
  2028 ...................................................................... AC036146
  2028 ...................................................................... AC122834
  2028 ...........................................T.......................... AC124709
  2028 ...................................................................... AL671880
  2005 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2110      2120      2130      2140      2150      2160      2170
       ---------+---------+---------+---------+---------+---------+---------+
  2101 CACTGAAACTAACAGAAGTGATGAAACAAATGGATCTGACAGATATCTACAGAACATTTTACCCTAAAAC
L1spaSp239to1597
  2098 .............................................................T........ AC036146
  2098 ...................................................................... AC122834
  2098 .............................................................T........ AC124709
  2098 .............................................................T........ AL671880
  2075 .............................................................T........ AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2180      2190      2200      2210      2220      2230      2240
       ---------+---------+---------+---------+---------+---------+---------+
  2171 AAAAGGATATACCTTCTTCTCAGCACCTCATGGTACCTTCTCCAAAATTGACCACATAATAGGTCACAAA
L1spaSp239to1597
  2168 ...................................................................... AC036146
  2168 ...................................................................... AC122834
  2168 ...................................................................... AC124709
  2168 ...................................................................... AL671880
  2145 ...........................................................C.......... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2250      2260      2270      2280      2290      2300      2310
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       ---------+---------+---------+---------+---------+---------+---------+
  2241 TCAGGCCTCAACAGATTAAAAAATATTGAAATTGTCCCATGTATCCTATCAGATCACCATGCACTAAGGC
L1spaSp239to1597
  2238 ................C..................................................... AC036146
  2238 ................C..................................................... AC122834
  2238 ................C..................................................... AC124709
  2238 ................C..................................................... AL671880
  2215 ................C..................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2320      2330      2340      2350      2360      2370      2380
       ---------+---------+---------+---------+---------+---------+---------+
  2311 TGATCTTCAATAACAAAATAAATAACAGAAAGCCAACATTCACATGGAAACTGAACAACACTCTTCTCAA
L1spaSp239to1597
  2308 ...................................................................... AC036146
  2308 ...................................................................... AC122834
  2308 ...................................................................... AC124709
  2308 ...................................................................... AL671880
  2285 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2390      2400      2410      2420      2430      2440      2450
       ---------+---------+---------+---------+---------+---------+---------+
  2381 TGATACCTTGGTCAAGGAAGGAATAAAGAAAGAAATTAAAGACTTTTTAGAGTTTAATGAAAATGAAGCC
L1spaSp239to1597
  2378 ...................................................................... AC036146
  2378 ...................................................................... AC122834
  2378 ...................................................................... AC124709
  2378 ...................................................................... AL671880
  2355 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2460      2470      2480      2490      2500      2510      2520
       ---------+---------+---------+---------+---------+---------+---------+
  2451 ACAACGTACCCAAACCTTTGGGACACAATGAAAGCATTTCTAAGAGGGAAACTCATAGCTATGAGTGCCT
L1spaSp239to1597
  2448 ...................................................................... AC036146
  2448 ...................................................................... AC122834
  2448 ...................................................................... AC124709
  2448 ...................................................................... AL671880
  2425 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2530      2540      2550      2560      2570      2580      2590
       ---------+---------+---------+---------+---------+---------+---------+
  2521 TCAAGAAAAAACGGGAGAGAGCACATACTAGCAGCTTGACAACACATCTAAAAGCTCTAGAAAAAAAGGA
L1spaSp239to1597
  2518 ...................................................................... AC036146
  2518 ...................................................................... AC122834
  2518 ...................................................................... AC124709
  2518 ...................................................................... AL671880
  2495 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2600      2610      2620      2630      2640      2650      2660
       ---------+---------+---------+---------+---------+---------+---------+
  2591 AGCAAATTCACCCAAGAGGAGTAGACGGCAGGAAATAATCAAACTCAGGGGTGAAATCAACCAAGTGGAA
L1spaSp239to1597
  2588 ...................................................................... AC036146
  2588 ...................................................................... AC122834
  2588 ...................................................................... AC124709
  2588 ...................................................................... AL671880
  2565 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2670      2680      2690      2700      2710      2720      2730
       ---------+---------+---------+---------+---------+---------+---------+
  2661 ACAAGAAGAACTATTCAAAGAATTAACCAAACGAGGAGTTGGTTCTTTGAGAAAATCAACAAGATAGATA
L1spaSp239to1597
  2658 ...................................................................... AC036146
  2658 ...................................................................... AC122834
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  2658 ...................................................................... AC124709
  2658 ...................................................................... AL671880
  2635 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2740      2750      2760      2770      2780      2790      2800
       ---------+---------+---------+---------+---------+---------+---------+
  2731 AACCCTTAGCTAGACTCACTAAAGGGCACAGGGACAAAATCCTAATTAACAAAATCAGAAATGAAAAGGG
L1spaSp239to1597
  2728 ...................................................................... AC036146
  2728 ...................................................................... AC122834
  2728 ...................................................................... AC124709
  2728 ...................................................................... AL671880
  2705 ............................................................C......... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2810      2820      2830      2840      2850      2860      2870
       ---------+---------+---------+---------+---------+---------+---------+
  2801 AGACATAACAACAGATCCTGAAGAAATCCAAAACACCATCAGATCCTTCTACAAAAGGCTATACTCAACA
L1spaSp239to1597
  2798 ...................................................................... AC036146
  2798 ...................................................................... AC122834
  2798 ...................................................................... AC124709
  2798 ...................................................................... AL671880
  2775 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2880      2890      2900      2910      2920      2930      2940
       ---------+---------+---------+---------+---------+---------+---------+
  2871 AAACTGGAAAACCTGGACGAAATGGACAAATTTCTGGACAGATACCAGGTACCAAAGTTGAATCAGGATC
L1spaSp239to1597
  2868 ...................................................................... AC036146
  2868 ...................................................................... AC122834
  2868 ...................................................................... AC124709
  2868 ...................................................................... AL671880
  2845 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                2950      2960      2970      2980      2990      3000      3010
       ---------+---------+---------+---------+---------+---------+---------+
  2941 AAGTTGACCTTCTAAACAGTCCCATATCCCCTAAAGAAATAGAAGCAGTTATTAATAGTCTCCCAGCCAA
L1spaSp239to1597
  2938 ...................................................................... AC036146
  2938 ...................................................................... AC122834
  2938 ...................................................................... AC124709
  2938 ...................................................................... AL671880
  2915 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3020      3030      3040      3050      3060      3070      3080
       ---------+---------+---------+---------+---------+---------+---------+
  3011 AAAAAGCCCAGGACCAGACGGGTTTAGTGCAGAGTTCTATCAGACCTTCAAAGAAGATCTAACTCCAGTT
L1spaSp239to1597
  3008 ...................................................................... AC036146
  3008 ...................................................................... AC122834
  3008 ...................................................................... AC124709
  3008 ...................................................................... AL671880
  2985 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3090      3100      3110      3120      3130      3140      3150
       ---------+---------+---------+---------+---------+---------+---------+
  3081 CTGCACAAACTTTTTCACAAGATAGAAGTAGAAGGTATTCTACCCAACTCATTTTATGAAGCCACTATTA
L1spaSp239to1597
  3078 ...................................................................... AC036146
  3078 ...................................................................... AC122834
  3078 ...................................................................... AC124709
  3078 ...................................................................... AL671880
  3055 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
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                3160      3170      3180      3190      3200      3210      3220
       ---------+---------+---------+---------+---------+---------+---------+
  3151 CTCTGATACCTAAACCACAGAAAGATCCAACAAAGATAGAGAACTTCAGACCAATTTCTCTTATGAACAT
L1spaSp239to1597
  3148 ...................................................................T.. AC036146
  3148 ...................................................................... AC122834
  3148 ...................................................................... AC124709
  3148 ...................................................................T.. AL671880
  3125 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3230      3240      3250      3260      3270      3280      3290
       ---------+---------+---------+---------+---------+---------+---------+
  3221 CGATGCAAAAATCCTTAATAAAATTCTCGCTAACCGAATCCAAGAACACATTAAAGCAATCATCCATCCT
L1spaSp239to1597
  3218 ...............C...................................................... AC036146
  3218 ...................................................................... AC122834
  3218 ...................................................................... AC124709
  3218 ...............C...................................................... AL671880
  3195 ............T......................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3300      3310      3320      3330      3340      3350      3360
       ---------+---------+---------+---------+---------+---------+---------+
  3291 GACCAAGTAGGTTTTATTCCAGGGATGCAGGGATGGTTTAATATACGAAAATCCATCAATGTAATCCATT
L1spaSp239to1597
  3288 .......................A.............................................. AC036146
  3288 ...................................................................... AC122834
  3288 ...................................................................... AC124709
  3288 .......................A.............................................. AL671880
  3265 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3370      3380      3390      3400      3410      3420      3430
       ---------+---------+---------+---------+---------+---------+---------+
  3361 ATATAAACAAACTCAAAGACAAAAACCACATGATCATCTCGTTAGATGCAGAAAAAGCATTTGACAAGAT
L1spaSp239to1597
  3358 ...................A.................................................. AC036146
  3358 ...................................................................... AC122834
  3358 ...................................................................... AC124709
  3358 ...................A.................................................. AL671880
  3335 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3440      3450      3460      3470      3480      3490      3500
       ---------+---------+---------+---------+---------+---------+---------+
  3431 CCAACACCCATTCATGATAAAAGTTCTGGAAAGATCAGGAATTCAAGGCCAATACCTAAACATGATAAAA
L1spaSp239to1597
  3428 ...................................................................... AC036146
  3428 ...................................................................... AC122834
  3428 ...................................................................... AC124709
  3428 ...................................................................... AL671880
  3405 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3510      3520      3530      3540      3550      3560      3570
       ---------+---------+---------+---------+---------+---------+---------+
  3501 GCAATCTACAGCAAACCAGTAGCCAACATCAAAGTAAATGGAGAGAAGCTGGAAGCAATCCCACTAAAAT
L1spaSp239to1597
  3498 ...................................................................... AC036146
  3498 ...................................................................... AC122834
  3498 ...................................................................... AC124709
  3498 ...................................................................... AL671880
  3475 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3580      3590      3600      3610      3620      3630      3640
       ---------+---------+---------+---------+---------+---------+---------+
  3571 CAGGGACTAGACAAGGCTGCCCACTTTCTCCCTACCTTTTCAACATAGTACTTGAAGTATTAGCCAGAGC
L1spaSp239to1597
  3568 ...................................................................... AC036146
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  3568 ...................................................................... AC122834
  3568 ...................................................................... AC124709
  3568 ...................................................................... AL671880
  3545 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3650      3660      3670      3680      3690      3700      3710
       ---------+---------+---------+---------+---------+---------+---------+
  3641 AATTCGACAACAAAAGGAGATCAAGGGGATACAAATTGGAAAAGAGGAAGTCAAAATATCACTTTTTGCA
L1spaSp239to1597
  3638 ...................................................................... AC036146
  3638 ...................................................................... AC122834
  3638 ...................................................................... AC124709
  3638 ...................................................................... AL671880
  3615 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3720      3730      3740      3750      3760      3770      3780
       ---------+---------+---------+---------+---------+---------+---------+
  3711 GATGATATGATAGTATATATAAGTGACCCTAAAAATTCCAACAGAGAACTCCTAAACCTGATAAACAGCT
L1spaSp239to1597
  3708 ...................................................................... AC036146
  3708 ...................................................................... AC122834
  3708 ...................................................................... AC124709
  3708 ...................................................................... AL671880
  3685 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3790      3800      3810      3820      3830      3840      3850
       ---------+---------+---------+---------+---------+---------+---------+
  3781 TCGGTGAAGTAGCTGGATATAAAATTAACTCAAACAAGTCAATGGCCTTTCTCTACACAAAGAATAAACA
L1spaSp239to1597
  3778 ...................................................................... AC036146
  3778 ...................................................................... AC122834
  3778 ...................................................................... AC124709
  3778 ...................................................................... AL671880
  3755 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3860      3870      3880      3890      3900      3910      3920
       ---------+---------+---------+---------+---------+---------+---------+
  3851 GGCTGAGAAAGAAATTAGGGAAACAACACCCTTCTCAATAGCCACAAATAATATAAAATATCTCGGCGTG
L1spaSp239to1597
  3848 ...................................................................... AC036146
  3848 ..........................T........................................... AC122834
  3848 ...................................................................... AC124709
  3848 ...................................................................... AL671880
  3825 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                3930      3940      3950      3960      3970      3980      3990
       ---------+---------+---------+---------+---------+---------+---------+
  3921 ACTCTAACGAAGGAAGTGAAAGATCTGTATGATAAAAACTTCAAGTCCCTGAAGAAAGAAATTAAAGAAG
L1spaSp239to1597
  3918 ...................................................................... AC036146
  3918 ...................................................................... AC122834
  3918 ...................................................................... AC124709
  3918 ...................................................................... AL671880
  3895 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4000      4010      4020      4030      4040      4050      4060
       ---------+---------+---------+---------+---------+---------+---------+
  3991 ATCTCAGAAGATGGAAAGATCTCCCATGCTCATGGATTGGCAGGACCAACATTGTAAAAATGGCTATCTT
L1spaSp239to1597
  3988 ...................................................................... AC036146
  3988 ...................................................................... AC122834
  3988 ...................................................................... AC124709
  3988 ...................................................................... AL671880
  3965 ...................................................................... AL845483
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       ---------+---------+---------+---------+---------+---------+---------+
                4070      4080      4090      4100      4110      4120      4130
       ---------+---------+---------+---------+---------+---------+---------+
  4061 GCCAAAAGCAATCTACAGATTCAATGCAATCCCCATTAAAATTCCAACTCAATTCTTCAACGAATTAGAA
L1spaSp239to1597
  4058 ...................................................................... AC036146
  4058 ...................................................................... AC122834
  4058 ...................................................................... AC124709
  4058 ...................................................................... AL671880
  4035 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4140      4150      4160      4170      4180      4190      4200
       ---------+---------+---------+---------+---------+---------+---------+
  4131 GGAGCAATTTGCAAATTCATCTGGAATAACAAAAAACCGAGGATAGCAAAAACTCTTCTCAAGGATAAAA
L1spaSp239to1597
  4128 ...................................................................... AC036146
  4128 ...................................................................... AC122834
  4128 ...................................................................... AC124709
  4128 ...................................................................... AL671880
  4105 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4210      4220      4230      4240      4250      4260      4270
       ---------+---------+---------+---------+---------+---------+---------+
  4201 GAACCTCTGGTGGAATCACCATGCCTGACCTAAAGCTTTACTACAGAGCAATTGTGATAAAAACTGCATG
L1spaSp239to1597
  4198 ...................................................................... AC036146
  4198 ...................................................................... AC122834
  4198 ...................................................................... AC124709
  4198 ...................................................................... AL671880
  4175 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4280      4290      4300      4310      4320      4330      4340
       ---------+---------+---------+---------+---------+---------+---------+
  4271 GTACTGGTATAGAGACAGACAAGTAGACCAATGGAATAGAATTGAAGACCCAGAAATGAACCCACACACC
L1spaSp239to1597
  4268 ........................G............................................. AC036146
  4268 ........................G............................................. AC122834
  4268 ........................G............................................. AC124709
  4268 ........................G............................................. AL671880
  4245 ........................G............................................. AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4350      4360      4370      4380      4390      4400      4410
       ---------+---------+---------+---------+---------+---------+---------+
  4341 TATGGTCACTTGATCTTCGACAAGGGAGCCAAAACCATCCAGTGGAAGAAAGACAGCATTTTCAACAATT
L1spaSp239to1597
  4338 ...................................................................... AC036146
  4338 ...................................................................... AC122834
  4338 ...................................................................... AC124709
  4338 ...................................................................... AL671880
  4315 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4420      4430      4440      4450      4460      4470      4480
       ---------+---------+---------+---------+---------+---------+---------+
  4411 GGTGCTGGCACAACTGGTTGTTATCATGTAGAAGAATGCGAATCGATCCATACTTATCTCCTTGTACTAA
L1spaSp239to1597
  4408 ...................................................................... AC036146
  4408 ...................................................................... AC122834
  4408 ...................................................................... AC124709
  4408 ...................................................................... AL671880
  4385 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4490      4500      4510      4520      4530      4540      4550
       ---------+---------+---------+---------+---------+---------+---------+
  4481 GGTCAAATCTAAGTGGATCAAGGAACTTCACATAAAACCAGAGACACTGAAACTTATAGAGGAGAAAGTG
L1spaSp239to1597
```

```
  4478 .....................A................................................ AC036146
  4478 ...................................................................... AC122834
  4478 ...................................................................... AC124709
  4478 .....................A................................................ AL671880
  4455 ............A........A................................................ AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4560      4570      4580      4590      4600      4610      4620
       ---------+---------+---------+---------+---------+---------+---------+
  4551 GGGAAAAGTCTTGAAGATATGGGCACAGGGGAAAAATTCCTGAACAGAACAGCAATGGCTTGTGCTGTAA
L1spaSp239to1597
  4548 ........C............................................................. AC036146
  4548 ........C............................................................. AC122834
  4548 ........C............................................................. AC124709
  4548 ........C............................................................. AL671880
  4525 ........C............................................................. AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4630      4640      4650      4660      4670      4680      4690
       ---------+---------+---------+---------+---------+---------+---------+
  4621 GATCGAGAATTGACAAATGGGACCTAATGAAACTCCAAAGTTTCTGCAAGGCAAAAGACACTGTCTATAA
L1spaSp239to1597
  4618 ...T.................................................................. AC036146
  4618 ...................................................................... AC122834
  4618 ...................................................................... AC124709
  4618 ...T.................................................................. AL671880
  4595 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4700      4710      4720      4730      4740      4750      4760
       ---------+---------+---------+---------+---------+---------+---------+
  4691 GACAAAAAGACCACCAACAGACTGGGAAAGGATCTTTACCTATCCTAAATCAGATAGGGGACTAATATCC
L1spaSp239to1597
  4688 ...................................................................... AC036146
  4688 ...................................................................... AC122834
  4688 ...................................................................... AC124709
  4688 ...................................................................... AL671880
  4665 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4770      4780      4790      4800      4810      4820      4830
       ---------+---------+---------+---------+---------+---------+---------+
  4761 AACATATATAAAGAACTCAAGAAGGTGGACCTCAGAAAATCAAATAACCCCCTTAAAAAATGGGGCTCAG
L1spaSp239to1597
  4758 ...................................................................... AC036146
  4758 ...................................................................... AC122834
  4758 ...................................................................... AC124709
  4758 ...................................................................... AL671880
  4735 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4840      4850      4860      4870      4880      4890      4900
       ---------+---------+---------+---------+---------+---------+---------+
  4831 AACTGAACAAAGAATTCTCACCTGAGGAATACCGAATGGCAGAGAAGCACCTGAAAAAATGTTCAACATC
L1spaSp239to1597
  4828 .................                                                      AC036146
  4828 ...................................................................... AC122834
  4828 ...................................................................... AC124709
  4828 ................................................................T..... AL671880
  4805 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                4910      4920      4930      4940      4950      4960      4970
       ---------+---------+---------+---------+---------+---------+---------+
  4901 CTTAATCATCAGGGAAATGCAAATCAAAACAACCCTGAGATTCCACCTCACACCAGTGAGAATGGCTAAG
L1spaSp239to1597
  4844                                                                        AC036146
  4898 ...................................................................... AC122834
  4898 ...................................................................... AC124709
  4898 ...................................................................... AL671880
  4875 ...................................................................... AL845483
```

```
       ---------+---------+---------+---------+---------+---------+---------+
                4980      4990      5000      5010      5020      5030      5040
       ---------+---------+---------+---------+---------+---------+---------+
  4971 ATCAAAAATTCAGGTGACAGCAGATGCTGGCGAGGATGTGGAGAAAGAGGAACACTCCTCCATTGTTGGT
L1spaSp239to1597
  4844                                                                        AC036146
  4968 ...................................................................... AC122834
  4968 ...................................................................... AC124709
  4968 ...................................................................... AL671880
  4945 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5050      5060      5070      5080      5090      5100      5110
       ---------+---------+---------+---------+---------+---------+---------+
  5041 GGGATTGCAGGCTTGTACAACCACTCTGGAAATCAGTCTGGCGGTTCCTCAGAAAATTGGACATAGTACT
L1spaSp239to1597
  4844                                                                        AC036146
  5038 ...................................................................... AC122834
  5038 ...................................................................... AC124709
  5038 ...................................................................... AL671880
  5015 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5120      5130      5140      5150      5160      5170      5180
       ---------+---------+---------+---------+---------+---------+---------+
  5111 ACCGGAGGATCCAGCAATACCTCTCCTGGGCATATATCCAGAAGAAGCCCCAACTGGTAAGAAGGACACA
L1spaSp239to1597
  4844                                                                        AC036146
  5108 ...................................................................... AC122834
  5108 ...................................................................... AC124709
  5108 ...................................................................... AL671880
  5085 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5190      5200      5210      5220      5230      5240      5250
       ---------+---------+---------+---------+---------+---------+---------+
  5181 TGCTCCACTATGTTCATAGCAGCCTTATTTATAATAGCCAGAAACTGGAAAGAACCCAGATGCCCCTCAA
L1spaSp239to1597
  4844                                                                        AC036146
  5178 ...................................................................... AC122834
  5178 ...................................................................... AC124709
  5178 ...................................................................... AL671880
  5155 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5260      5270      5280      5290      5300      5310      5320
       ---------+---------+---------+---------+---------+---------+---------+
  5251 CAGAGGAATGGATACAGAAAATGTGGTACATCTACACAATGGAGTACTACTCAGCTATTAAAAAGAATGA
L1spaSp239to1597
  4844                                                                        AC036146
  5248 ...................................................................... AC122834
  5248 ...................................................................... AC124709
  5248 ...................................................................... AL671880
  5225 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5330      5340      5350      5360      5370      5380      5390
       ---------+---------+---------+---------+---------+---------+---------+
  5321 ATTTATGAAATTCCTAGCCAAATGGATGGACCTGGAGAGCATCATCCTGAGTGAGGTAACACAATCACAA
L1spaSp239to1597
  4844                                                                        AC036146
  5318 ...................................................................... AC122834
  5318 ...................................................................... AC124709
  5318 ...................................................................... AL671880
  5295 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5400      5410      5420      5430      5440      5450      5460
       ---------+---------+---------+---------+---------+---------+---------+
```

```
  5391 AGGAACTCACACAATATGTACTCACTGATAAGTGGATACTAGCCCAAAACCTAGGATACCCACGATATAA
L1spaSp239to1597
  4844                                                                        AC036146
  5388 ...................................................................... AC122834
  5388 ...................................................................... AC124709
  5388 ...................................................................... AL671880
  5365 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5470      5480      5490      5500      5510      5520      5530
       ---------+---------+---------+---------+---------+---------+---------+
  5461 GATACAATTTCCTAAACACATGAAACTCAAGAAAAATGAAGACTGAAGTGTGGACACTATGCCCCTCCTT
L1spaSp239to1597
  4844                                                                        AC036146
  5458 ...................................................................... AC122834
  5458 .......................................G.............................. AC124709
  5458 ...................................................................... AL671880
  5435 .................................................A.................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5540      5550      5560      5570      5580      5590      5600
       ---------+---------+---------+---------+---------+---------+---------+
  5531 AGAAGTGGGAACAAAACACCCATGGAAGGAGTTACAGAAACAAAGTTTGGAGCTGAGATGAAAGGAGGGA
L1spaSp239to1597
  4844                                                                        AC036146
  5528 ..................................................................T... AC122834
  5528 ..................................................................T... AC124709
  5528 ..............................................A...................T... AL671880
  5505 ..............................................A...................T... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5610      5620      5630      5640      5650      5660      5670
       ---------+---------+---------+---------+---------+---------+---------+
  5601 CCATGTAGAGACTGCCATATCCAGGGATCCACCCCATAATCAGCATCCAAACGCTGACACCATTGCATAT
L1spaSp239to1597
  4844                                                                        AC036146
  5598 ...................................................................... AC122834
  5598 ...................................................................... AC124709
  5598 ............................................T......T.................C AL671880
  5575 ............................................T......T.................C AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5680      5690      5700      5710      5720      5730      5740
       ---------+---------+---------+---------+---------+---------+---------+
  5671 ACTAGCAAGATTTTATCGAAAGGACCCAGATGTAGCTGTCTCTTGTGAGACTATGCCGGGGCCTAGCAAA
L1spaSp239to1597
  4844                                                                        AC036146
  5668 ...................................................................... AC122834
  5668 ...................................................................... AC124709
  5668 ...............CT..................................................... AL671880
  5645 ...............CT..................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5750      5760      5770      5780      5790      5800      5810
       ---------+---------+---------+---------+---------+---------+---------+
  5741 CACAGAAGTGGATGCTCACAGTCAGCTAATGGATGGATCACAGGGCTCCCAATGGAGGAGCTAGAGAAAG
L1spaSp239to1597
  4844                                                                        AC036146
  5738 ...................................................................... AC122834
  5738 ...................................................................... AC124709
  5738 ...................................................................... AL671880
  5715 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5820      5830      5840      5850      5860      5870      5880
       ---------+---------+---------+---------+---------+---------+---------+
  5811 TACCCAAGGAGCTAAAGGGATCTGCAACCCTATAGGTGGAACAACATTATGAACTAACCAGTACCCCTGA
L1spaSp239to1597
  4844                                                                        AC036146
  5808 .......................T.............................................. AC122834
  5808 .......................T.............................................. AC124709
```

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  5808 .......................T.............................................. AL671880
  5785 .......................T.............................................. AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5890      5900      5910      5920      5930      5940      5950
       ---------+---------+---------+---------+---------+---------+---------+
  5881 GCTCTTGACTCTAGCTGCATATGTATCAAAAGATGGCCTAGTCGGCCATCACTGGAAAGAGAGGCCCATT
L1spaSp239to1597
  4844                                                                        AC036146
  5878 ...................................................................... AC122834
  5878 ...................................................................... AC124709
  5878 ...................................................................... AL671880
  5855 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                5960      5970      5980      5990      6000      6010      6020
       ---------+---------+---------+---------+---------+---------+---------+
  5951 GGACACGCAGACTTTGTGTGCCCCGGTACAGGGGAACGCCAGGGCCAAAGGGGGGGGAGTGGGTGGGTAG
L1spaSp239to1597
  4844                                                                        AC036146
  5948 ........................................................-............. AC122834
  5948 ........................................................-...A.A....... AC124709
  5948 ........................................................-............. AL671880
  5925 ........................................................-......A...... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                6030      6040      6050      6060      6070      6080      6090
       ---------+---------+---------+---------+---------+---------+---------+
  6021 GGGAGTGGGGGTGGGTGGGTAAGGGGGACTTTTGGTATAGCATTGGAAATGTAAATGAGCTAAATACCTA
L1spaSp239to1597
  4844                                                                        AC036146
  6017 ...................................................................... AC122834
  6017 ...................................................................... AC124709
  6017 ...................................................................... AL671880
  5994 ...................................................................... AL845483

       ---------+---------+---------+---------+---------+---------+---------+
                6100      6110      6120      6130      6140      6150      6160
       ---------+---------+---------+---------+---------+---------+---------+
  6091 ATAAAAAATGGAAAAAAAATAAAAAAAATAAAATAAAAAAAAAGACC----ATGAAACATA-----AAAA
L1spaSp239to1597
  4844                                                                        AC036146
  6087 ...................A........A....A.G..T.TGTTG.TCTCA..T.......GTCTC.... AC122834
  6087 ...................A...TT-CT...TC.C.TCTCC..AG-------AC.TCTT.G--CCTT... AC124709
  6087 ...................A...T.GTC...CTCC.GGTCC.G.GGATCCC.AT.CCTC.GACCTCTGC. AL671880
  6064 ........AAA.T......A......G.A.TT.C.G....--------A----T...GG..--------- AL845483
```

Supplemental figure 6. Alignment of the spliced L1 elements identified in the mouse genome. Sequences of the full-length mouse L1 elements that underwent splicing (SD and SA sites at positions 239 and 1597 L1spa sequence, respectively) and retrotransposed were extracted from the mouse genome and aligned by ClustalW against the L1spa sequence spliced in the same manner (L1spaSp239to1597). Nucleotides that do not match L1spa sequence are shown, with deleted bases as dashes. Accession numbers corresponding to each contig containing these sequences and chromosome numbers are shown on the right.

```
        ---------+---------+---------+---------+---------+---------+---------+
                 10        20        30        40        50        60        70
        ---------+---------+---------+---------+---------+---------+---------+
      1 CGGAACTTAGGAAATTAGTCTGAACAGGTGAGAGTCTGTACCACCTGGGAACTGCCAAAGCAACACAGTG
L1spaSp27to1514
      1 --.................................................................... AC078790
      1 --.................................................................... AC102220
      1 --.................................................................... AC125142
      1 --.................................................................... AC125166
      1 --.................................................................C.. AC133495
      1 --.................................................................... AL954355

        ---------+---------+---------+---------+---------+---------+---------+
                 80        90       100       110       120       130       140
        ---------+---------+---------+---------+---------+---------+---------+
     71 TCTGAGAAAGGTCCTGTTTTGGGCCTTCTTCTTCGTCCAGGAGGAGGTCCAAATACAAGATATCTGCGCA
L1spaSp27to1514
     69 ...................................G.................................. AC078790
     69 ...................................G.................................. AC102220
     69 ...................................G.................................. AC125142
     69 ...................................G.................................. AC125166
     69 ...................................G.................................. AC133495
     69 ...................................G.................................. AL954355

        ---------+---------+---------+---------+---------+---------+---------+
                150       160       170       180       190       200       210
        ---------+---------+---------+---------+---------+---------+---------+
    141 CCTTCCCTGTAAGAGAGCTTGCCAGCAGAGAGTGCTCTGAGCACTGAAACTCAGAGGAGAGAATCTGTCT
L1spaSp27to1514
    139 ...................................................................... AC078790
    139 ...................................................................... AC102220
    139 ...................................................................... AC125142
    139 ...................................................................... AC125166
    139 ..........................................................A........... AC133495
    139 ...................................................................... AL954355

        ---------+---------+---------+---------+---------+---------+---------+
                220       230       240       250       260       270       280
        ---------+---------+---------+---------+---------+---------+---------+
    211 CCCAGGTCTGCTGATAGACGGTAACAGAATCACCAGAAGAACAATCTCTAAACAGAGTCAACTATAACTA
L1spaSp27to1514
    209 ...................................................................... AC078790
    209 ...................................................................... AC102220
    209 ...................................................................... AC125142
    209 ...................................................................... AC125166
    209 ...................................................................... AC133495
    209 ...................................................................... AL954355

        ---------+---------+---------+---------+---------+---------+---------+
                290       300       310       320       330       340       350
        ---------+---------+---------+---------+---------+---------+---------+
    281 CTAACTCCAGAGATTACCAGATGGCGAAAGGTAAACGGAGGAATCTTACTAACAGGAACCAAGACCACTC
L1spaSp27to1514
    279 ..............................................G....................... AC078790
    279 ...................................................................... AC102220
    279 ..............................................G....................... AC125142
    279 ..............................................G....................... AC125166
    279 ...................................................................... AC133495
    279 ..............................................G....................... AL954355

        ---------+---------+---------+---------+---------+---------+---------+
                360       370       380       390       400       410       420
        ---------+---------+---------+---------+---------+---------+---------+
    351 ACCATCACCAGAACCCAGCACACCCACTTCGCCCAGTCCAGGGAACCCCAACACACCTGAGAACCTAGAC
L1spaSp27to1514
    349 ...................................................................... AC078790
    349 ...................................................................... AC102220
    349 ...................................................................... AC125142
    349 ...................................................................... AC125166
    349 ...................................................................... AC133495
    349 ...................................................................... AL954355
```

```
       ---------+---------+---------+---------+---------+---------+---------+
                430       440       450       460       470       480       490
       ---------+---------+---------+---------+---------+---------+---------+
   421 CTAGATTTAAAAGCATATCTCATGATGATGGTAGAGGGCATCAAGAAGGACTTTAATAAATCACTTAAAG
L1spaSp27to1514
   419 .....................................A................................ AC078790
   419 .....................................A................................ AC102220
   419 .....................................A................................ AC125142
   419 .....................................A................................ AC125166
   419 .....................................A................................ AC133495
   419 .....................................A................................ AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                500       510       520       530       540       550       560
       ---------+---------+---------+---------+---------+---------+---------+
   491 AAATACAGGAGAACACTGCTAAAGAGTTACAAGTCCTTAAAGAAAAACAGGAAAACACAATCAAACAGGT
L1spaSp27to1514
   489 ...................................................................... AC078790
   489 ...................................................................... AC102220
   489 ...................................................................... AC125142
   489 ...................................................................... AC125166
   489 ...................................................................... AC133495
   489 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                570       580       590       600       610       620       630
       ---------+---------+---------+---------+---------+---------+---------+
   561 AGAAGTCCTTACAGAAAAAGAGGAAAAAACATACAAACAGGTGATGGAAATGAACAAAACCATACTAGAC
L1spaSp27to1514
   559 ...................................................................... AC078790
   559 ...................................................................... AC102220
   559 ...................................................................... AC125142
   559 ...................................................................... AC125166
   559 ...................................................................... AC133495
   559 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                640       650       660       670       680       690       700
       ---------+---------+---------+---------+---------+---------+---------+
   631 CTAAAAAGGGAAGTAGACACAATAAAGAAAACTCAAAGCGAGGCAACACTAGAGATAGAAACCCTAGGAA
L1spaSp27to1514
   629 ...................................................................... AC078790
   629 ...................................................................... AC102220
   629 ...................................................................... AC125142
   629 ...................................................................... AC125166
   629 ...................................................................... AC133495
   629 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                710       720       730       740       750       760       770
       ---------+---------+---------+---------+---------+---------+---------+
   701 AGAAATCTGGAACCATAGATTTGAGCATCAGCAACAGAATACAAGAGATGGAAGAGAGAATCTCAGGTGC
L1spaSp27to1514
   699 ...................................................................... AC078790
   699 ...................................................................... AC102220
   699 ...................................................................... AC125142
   699 ...................................................................... AC125166
   699 ...................................................................... AC133495
   699 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                780       790       800       810       820       830       840
       ---------+---------+---------+---------+---------+---------+---------+
   771 AGAACATTCCATAGAGAACATCGGCACAACAATCAAAGAAAATGGAAAATGCAAAAAGATCCTAACTCAA
L1spaSp27to1514
   769 ....G................................................................. AC078790
   769 ....G................................................................. AC102220
   769 ....G................................................................. AC125142
   769 ....G................................................................. AC125166
   769 ....G................................................................. AC133495
```

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   769 ....G................................................................. AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                850       860       870       880       890       900       910
       ---------+---------+---------+---------+---------+---------+---------+
   841 AATATCCAGGAAATCCAGGACACAATAAGAAGACCAAACGTACGGATAATAGGAGTGGATGAGAATGAAG
L1spaSp27to1514
   839 ..........................G............C.............................. AC078790
   839 ...................................................................... AC102220
   839 ..........................G............C.............................. AC125142
   839 ..........................G............C.............................. AC125166
   839 ...................................................................... AC133495
   839 ..........................G............C.............................. AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                920       930       940       950       960       970       980
       ---------+---------+---------+---------+---------+---------+---------+
   911 ATTTTCAACTCAAAGGTCCAGCAAACATCTTCAACAAAATTATTGAAGAAAACTTCCCAAATCTAAAGAA
L1spaSp27to1514
   909 ...................................................................... AC078790
   909 ...................................................................... AC102220
   909 ...................................................................... AC125142
   909 ...................................................................... AC125166
   909 ...................................................................... AC133495
   909 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                990       1000      1010      1020      1030      1040      1050
       ---------+---------+---------+---------+---------+---------+---------+
   981 TGAGATGCATATGAACATACAAGAAGCCTACAGAACTCCAAATAGACTGGACCAGAAAAGAAATTCCTCC
L1spaSp27to1514
   979 ...................................................................... AC078790
   979 ...................................................................... AC102220
   979 ...................................................................... AC125142
   979 ...................................................................... AC125166
   979 ...................................................................... AC133495
   979 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1060      1070      1080      1090      1100      1110      1120
       ---------+---------+---------+---------+---------+---------+---------+
  1051 CGACACATAATAATCAGAACATCAAATGCACTAAATAAAGATAGAATACTAAAAGCAGTAAGGGAAAAAG
L1spaSp27to1514
  1049 ...................................................................... AC078790
  1049 ...................................................................... AC102220
  1049 ...................................................................... AC125142
  1049 ...................................................................... AC125166
  1049 ...................................................................... AC133495
  1049 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1130      1140      1150      1160      1170      1180      1190
       ---------+---------+---------+---------+---------+---------+---------+
  1121 GTCAAGTAACATATAAAGGCAAGCCTATCAGAATTACACCAGATTTTTCACCAGAGACTATGAAAGCCAG
L1spaSp27to1514
  1119 ...................................................................... AC078790
  1119 ...................................................................... AC102220
  1119 ...................................................................... AC125142
  1119 ...................................................................... AC125166
  1119 ...................................................................... AC133495
  1119 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1200      1210      1220      1230      1240      1250      1260
       ---------+---------+---------+---------+---------+---------+---------+
  1191 AAGAGCCTGGACAGATGTTATACAGACACTAAGAGAACACAAACTGCAGCCCAGGCTACTATACCCAGCC
L1spaSp27to1514
  1189 ...................................................................... AC078790
  1189 ...................................................................... AC102220
  1189 ...................................................................... AC125142
  1189 ...................................................................... AC125166
```

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  1189 ...................................................................... AC133495
  1189 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1270      1280      1290      1300      1310      1320      1330
       ---------+---------+---------+---------+---------+---------+---------+
  1261 AAACTCTCAATTATCATAGAGGGAGAAACCAAAGTATTCCACGACAAAACCAAATTCACGCATTATCTCT
L1spaSp27to1514
  1259 ...................................................................... AC078790
  1259 ...................................................................... AC102220
  1259 ...................................................................... AC125142
  1259 ...................................................................... AC125166
  1259 ...................................................................... AC133495
  1259 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1340      1350      1360      1370      1380      1390      1400
       ---------+---------+---------+---------+---------+---------+---------+
  1331 CCACGAATCCAGCCCTTCAAAGGATAATAACAGAAAAAAACCAATACAAGAACGGGAACAACGCCCTAGA
L1spaSp27to1514
  1329 ...................................................................... AC078790
  1329 ...................................................................... AC102220
  1329 ...................................................................... AC125142
  1329 ...................................................................... AC125166
  1329 ...................................................................... AC133495
  1329 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1410      1420      1430      1440      1450      1460      1470
       ---------+---------+---------+---------+---------+---------+---------+
  1401 AAAAACAAGAAGGTAATCCCTCAACAAACCTAAAAGAAGACAGCCACAAGAACAGAATGCCACCTTTAAC
L1spaSp27to1514
  1399 ...................................................................... AC078790
  1399 ...................................................................... AC102220
  1399 ...................................................................... AC125142
  1399 ...................................................................... AC125166
  1399 ...................................................................... AC133495
  1399 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1480      1490      1500      1510      1520      1530      1540
       ---------+---------+---------+---------+---------+---------+---------+
  1471 AACTAAAATAACAGGAAGCAACAATTACTTTTCCTTAATATCTCTTAACATCAATGGTCTCAACTCGCCA
L1spaSp27to1514
  1469 ...................................................................... AC078790
  1469 ...................................................................... AC102220
  1469 ...................................................................... AC125142
  1469 ...................................................................... AC125166
  1469 ...................................................................... AC133495
  1469 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1550      1560      1570      1580      1590      1600      1610
       ---------+---------+---------+---------+---------+---------+---------+
  1541 ATAAAAAGACATAGACTAACAAACTGGCTACACAAACAAGACCCAACATTTTGCTGCTTACAGGAAACTC
L1spaSp27to1514
  1539 ..................................................G................... AC078790
  1539 ...................................................................... AC102220
  1539 ...................................................................... AC125142
  1539 ...................................................................... AC125166
  1539 ...................................................................... AC133495
  1539 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1620      1630      1640      1650      1660      1670      1680
       ---------+---------+---------+---------+---------+---------+---------+
  1611 ATCTCAGAGAAAAAGATAGACACTACCTCAGAATGAAAGGCTGGAAAACAATTTTCCAAGCAAATGGTAT
L1spaSp27to1514
  1609 ...................................................................... AC078790
  1609 ...................................................................... AC102220
  1609 ...................................................................... AC125142
```

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  1609 ...................................................................... AC125166
  1609 ...................................................................... AC133495
  1609 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1690      1700      1710      1720      1730      1740      1750
       ---------+---------+---------+---------+---------+---------+---------+
  1681 GAAGAAACAAGCAGGAGTAGCCATCCTAATATCTGATAAGATTGACTTCCAACCCAAAGTCATCAAAAAA
L1spaSp27to1514
  1679 ...................................................................... AC078790
  1679 ...................................................................... AC102220
  1679 ...................................................................... AC125142
  1679 ...................................................................... AC125166
  1679 ...................................................................... AC133495
  1679 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1760      1770      1780      1790      1800      1810      1820
       ---------+---------+---------+---------+---------+---------+---------+
  1751 GACAAGGAGGGACACTTCATTCTCATCAAAGGTAAAATCCTCCAAGAGGAACTCTCAATTCTGAATATCT
L1spaSp27to1514
  1749 ...................................................................... AC078790
  1749 ...................................................................... AC102220
  1749 ...................................................................... AC125142
  1749 ...................................................................... AC125166
  1749 ...................................................................... AC133495
  1749 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1830      1840      1850      1860      1870      1880      1890
       ---------+---------+---------+---------+---------+---------+---------+
  1821 ATGCTCCAAATACAAGAGCAGCCACATTCACTAAAGAAACTTTAGTAAAGCTCAAAGCACACATTGCGCC
L1spaSp27to1514
  1819 ...................................................................... AC078790
  1819 ...................................................................... AC102220
  1819 ...................................................................... AC125142
  1819 ...................................................................... AC125166
  1819 ...................................................................... AC133495
  1819 .........................................A............................ AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1900      1910      1920      1930      1940      1950      1960
       ---------+---------+---------+---------+---------+---------+---------+
  1891 TCACACAATAATAGTGGGAGACTTCAACACACCACTTTCACCAATGGACAGATCATGGAAACAGAAACTA
L1spaSp27to1514
  1889 ...................................................................... AC078790
  1889 ...................................................................... AC102220
  1889 ...................................................................... AC125142
  1889 ...................................................................... AC125166
  1889 ...................................................................... AC133495
  1889 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                1970      1980      1990      2000      2010      2020      2030
       ---------+---------+---------+---------+---------+---------+---------+
  1961 AACAGGGACACACTGAAACTAACAGAAGTGATGAAACAAATGGATCTGACAGATATCTACAGAACATTTT
L1spaSp27to1514
  1959 ...................................................................... AC078790
  1959 ...................................................................... AC102220
  1959 ...................................................................... AC125142
  1959 ...................................................................... AC125166
  1959 ...................................................................... AC133495
  1959 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2040      2050      2060      2070      2080      2090      2100
       ---------+---------+---------+---------+---------+---------+---------+
  2031 ACCCTAAAACAAAAGGATATACCTTCTTCTCAGCACCTCATGGTACCTTCTCCAAAATTGACCACATAAT
L1spaSp27to1514
  2029 ...............A...................................................... AC078790
  2029 .T.................................................................... AC102220
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  2029 ...................................................................... AC125142
  2029 ...................................................................... AC125166
  2029 .T.................................................................... AC133495
  2029 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2110      2120      2130      2140      2150      2160      2170
       ---------+---------+---------+---------+---------+---------+---------+
  2101 AGGTCACAAATCAGGCCTCAACAGATTAAAAAATATTGAAATTGTCCCATGTATCCTATCAGATCACCAT
L1spaSp27to1514
  2099 ...........................C................C......................... AC078790
  2099 ...........................C.......................................... AC102220
  2099 ...........................C................C......................... AC125142
  2099 ...........................C................C......................... AC125166
  2099 ...........................C.......................................... AC133495
  2099 ...........................C................C......................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2180      2190      2200      2210      2220      2230      2240
       ---------+---------+---------+---------+---------+---------+---------+
  2171 GCACTAAGGCTGATCTTCAATAACAAAATAAATAACAGAAAGCCAACATTCACATGGAAACTGAACAACA
L1spaSp27to1514
  2169 ...................................................................... AC078790
  2169 ...................................................................... AC102220
  2169 ...................................................................... AC125142
  2169 ...................................................................... AC125166
  2169 ....A................................................................. AC133495
  2169 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2250      2260      2270      2280      2290      2300      2310
       ---------+---------+---------+---------+---------+---------+---------+
  2241 CTCTTCTCAATGATACCTTGGTCAAGGAAGGAATAAAGAAAGAAATTAAAGACTTTTTAGAGTTTAATGA
L1spaSp27to1514
  2239 ...............................G...................................... AC078790
  2239 ...................................................................... AC102220
  2239 ...............................G...................................... AC125142
  2239 ...............................G...................................... AC125166
  2239 ...................................................................... AC133495
  2239 ...............................G...................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2320      2330      2340      2350      2360      2370      2380
       ---------+---------+---------+---------+---------+---------+---------+
  2311 AAATGAAGCCACAACGTACCCAAACCTTTGGGACACAATGAAAGCATTTCTAAGAGGGAAACTCATAGCT
L1spaSp27to1514
  2309 ...................................................................... AC078790
  2309 ...................................................................T.. AC102220
  2309 ...................................................................... AC125142
  2309 ...................................................................... AC125166
  2309 ...................................................................... AC133495
  2309 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2390      2400      2410      2420      2430      2440      2450
       ---------+---------+---------+---------+---------+---------+---------+
  2381 ATGAGTGCCTTCAAGAAAAAACGGGAGAGAGCACATACTAGCAGCTTGACAACACATCTAAAAGCTCTAG
L1spaSp27to1514
  2379 ...................................................................... AC078790
  2379 ......................AC.............................................. AC102220
  2379 ...................................................................... AC125142
  2379 ...................................................................... AC125166
  2379 ...................................................................... AC133495
  2379 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2460      2470      2480      2490      2500      2510      2520
       ---------+---------+---------+---------+---------+---------+---------+
  2451 AAAAAAAGGAAGCAAATTCACCCAAGAGGAGTAGACGGCAGGAAATAATCAAACTCAGGGGTGAAATCAA
L1spaSp27to1514
  2449 ...................................................................... AC078790
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  2449 ...................................................................... AC102220
  2449 ...................................................................... AC125142
  2449 ...................................................................... AC125166
  2449 ...................................................................... AC133495
  2449 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2530      2540      2550      2560      2570      2580      2590
       ---------+---------+---------+---------+---------+---------+---------+
  2521 CCAAGTGGAAACAAGAAGAACTATTCAAAGAATTAACCAAACGAGGAGTTGGTTCTTTGAGAAAATCAAC
L1spaSp27to1514
  2519 ...................................................................... AC078790
  2519 ...................................................................... AC102220
  2519 ...................................................................... AC125142
  2519 ...................................................................... AC125166
  2519 ...................................................................... AC133495
  2519 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2600      2610      2620      2630      2640      2650      2660
       ---------+---------+---------+---------+---------+---------+---------+
  2591 AAGATAGATAAACCCTTAGCTAGACTCACTAAAGGGCACAGGGACAAAATCCTAATTAACAAAATCAGAA
L1spaSp27to1514
  2589 ...................................................................... AC078790
  2589 ......................C............................................... AC102220
  2589 ...................................................................... AC125142
  2589 ...................................................................... AC125166
  2589 ...................................................................... AC133495
  2589 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2670      2680      2690      2700      2710      2720      2730
       ---------+---------+---------+---------+---------+---------+---------+
  2661 ATGAAAAGGGAGACATAACAACAGATCCTGAAGAAATCCAAAACACCATCAGATCCTTCTACAAAAGGCT
L1spaSp27to1514
  2659 ...................................................................... AC078790
  2659 ...................................................................... AC102220
  2659 .....................................................G................ AC125142
  2659 ...................................................................... AC125166
  2659 ..............................................A....................... AC133495
  2659 .....................................................G................ AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2740      2750      2760      2770      2780      2790      2800
       ---------+---------+---------+---------+---------+---------+---------+
  2731 ATACTCAACAAAACTGGAAAACCTGGACGAAATGGACAAATTTCTGGACAGATACCAGGTACCAAAGTTG
L1spaSp27to1514
  2729 ...................................................................... AC078790
  2729 ...................................................................... AC102220
  2729 ...................................................................... AC125142
  2729 ...................................................................... AC125166
  2729 ...................................................................... AC133495
  2729 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2810      2820      2830      2840      2850      2860      2870
       ---------+---------+---------+---------+---------+---------+---------+
  2801 AATCAGGATCAAGTTGACCTTCTAAACAGTCCCATATCCCCTAAAGAAATAGAAGCAGTTATTAATAGTC
L1spaSp27to1514
  2799 ...................................................................... AC078790
  2799 ...................................................................... AC102220
  2799 ...................................................................... AC125142
  2799 ...................................................................... AC125166
  2799 ...................................................................... AC133495
  2799 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2880      2890      2900      2910      2920      2930      2940
       ---------+---------+---------+---------+---------+---------+---------+
  2871 TCCCAGCCAAAAAAAGCCCAGGACCAGACGGGTTTAGTGCAGAGTTCTATCAGACCTTCAAAGAAGATCT
L1spaSp27to1514
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  2869 ...................................................................... AC078790
  2869 ...................................................................... AC102220
  2869 ...................................................................... AC125142
  2869 ...................................................................... AC125166
  2869 ...................................................................... AC133495
  2869 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                2950      2960      2970      2980      2990      3000      3010
       ---------+---------+---------+---------+---------+---------+---------+
  2941 AACTCCAGTTCTGCACAAACTTTTTCACAAGATAGAAGTAGAAGGTATTCTACCCAACTCATTTTATGAA
L1spaSp27to1514
  2939 ...................................................................... AC078790
  2939 ...................................................................... AC102220
  2939 ...................................................................... AC125142
  2939 ...................................................................... AC125166
  2939 ...................................................................... AC133495
  2939 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3020      3030      3040      3050      3060      3070      3080
       ---------+---------+---------+---------+---------+---------+---------+
  3011 GCCACTATTACTCTGATACCTAAACCACAGAAAGATCCAACAAAGATAGAGAACTTCAGACCAATTTCTC
L1spaSp27to1514
  3009 ...................................................................... AC078790
  3009 ...................................................................... AC102220
  3009 ...................................................................... AC125142
  3009 ............................G......................................... AC125166
  3009 ...................................................................... AC133495
  3009 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3090      3100      3110      3120      3130      3140      3150
       ---------+---------+---------+---------+---------+---------+---------+
  3081 TTATGAACATCGATGCAAAAATCCTTAATAAAATTCTCGCTAACCGAATCCAAGAACACATTAAAGCAAT
L1spaSp27to1514
  3079 ...................................................................... AC078790
  3079 ...................................................................C.. AC102220
  3079 ...................................................................... AC125142
  3079 ...................................................................... AC125166
  3079 ......................T...................................T........... AC133495
  3079 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3160      3170      3180      3190      3200      3210      3220
       ---------+---------+---------+---------+---------+---------+---------+
  3151 CATCCATCCTGACCAAGTAGGTTTTATTCCAGGGATGCAGGGATGGTTTAATATACGAAAATCCATCAAT
L1spaSp27to1514
  3149 ...................................................................... AC078790
  3149 ...................................................................... AC102220
  3149 ...................................................................... AC125142
  3149 .....................................A................................ AC125166
  3149 ...................................................................... AC133495
  3149 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3230      3240      3250      3260      3270      3280      3290
       ---------+---------+---------+---------+---------+---------+---------+
  3221 GTAATCCATTATATAAACAAACTCAAAGACAAAAACCACATGATCATCTCGTTAGATGCAGAAAAAGCAT
L1spaSp27to1514
  3219 ...................................................................... AC078790
  3219 ...................................................................... AC102220
  3219 ...................................................................... AC125142
  3219 ...................................................................... AC125166
  3219 ...................................................................... AC133495
  3219 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3300      3310      3320      3330      3340      3350      3360
       ---------+---------+---------+---------+---------+---------+---------+
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  3291 TTGACAAGATCCAACACCCATTCATGATAAAAGTTCTGGAAAGATCAGGAATTCAAGGCCAATACCTAAA
L1spaSp27to1514
  3289 ...................................................................... AC078790
  3289 ...................................................................... AC102220
  3289 ...................................................................... AC125142
  3289 ...................................................................... AC125166
  3289 ...................................................................... AC133495
  3289 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3370      3380      3390      3400      3410      3420      3430
       ---------+---------+---------+---------+---------+---------+---------+
  3361 CATGATAAAAGCAATCTACAGCAAACCAGTAGCCAACATCAAAGTAAATGGAGAGAAGCTGGAAGCAATC
L1spaSp27to1514
  3359 ...................................................................... AC078790
  3359 ...................................................................... AC102220
  3359 ...................................................................... AC125142
  3359 ...................................................................... AC125166
  3359 ...................................................................... AC133495
  3359 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3440      3450      3460      3470      3480      3490      3500
       ---------+---------+---------+---------+---------+---------+---------+
  3431 CCACTAAAATCAGGGACTAGACAAGGCTGCCCACTTTCTCCCTACCTTTTCAACATAGTACTTGAAGTAT
L1spaSp27to1514
  3429 ...................................................................... AC078790
  3429 ...................................................................... AC102220
  3429 ...................................................................... AC125142
  3429 ...................................................................... AC125166
  3429 ...................................................................... AC133495
  3429 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3510      3520      3530      3540      3550      3560      3570
       ---------+---------+---------+---------+---------+---------+---------+
  3501 TAGCCAGAGCAATTCGACAACAAAAGGAGATCAAGGGGATACAAATTGGAAAAGAGGAAGTCAAAATATC
L1spaSp27to1514
  3499 ...................................................................... AC078790
  3499 ...................................................................... AC102220
  3499 ...................................................................... AC125142
  3499 ...................................................................... AC125166
  3499 ...................................................................... AC133495
  3499 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3580      3590      3600      3610      3620      3630      3640
       ---------+---------+---------+---------+---------+---------+---------+
  3571 ACTTTTTGCAGATGATATGATAGTATATATAAGTGACCCTAAAAATTCCAACAGAGAACTCCTAAACCTG
L1spaSp27to1514
  3569 ...................................................................... AC078790
  3569 ...................................................................... AC102220
  3569 ...................................................................... AC125142
  3569 ...................................................................... AC125166
  3569 ...................................................................... AC133495
  3569 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3650      3660      3670      3680      3690      3700      3710
       ---------+---------+---------+---------+---------+---------+---------+
  3641 ATAAACAGCTTCGGTGAAGTAGCTGGATATAAAATTAACTCAAACAAGTCAATGGCCTTTCTCTACACAA
L1spaSp27to1514
  3639 ...................................................................... AC078790
  3639 ...................................................................... AC102220
  3639 ...................................................................... AC125142
  3639 ...................................................................... AC125166
  3639 ...................................................................... AC133495
  3639 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3720      3730      3740      3750      3760      3770      3780
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       ---------+---------+---------+---------+---------+---------+---------+
  3711 AGAATAAACAGGCTGAGAAAGAAATTAGGGAAACAACACCCTTCTCAATAGCCACAAATAATATAAAATA
L1spaSp27to1514
  3709 ...................................................................... AC078790
  3709 .................T.................................................... AC102220
  3709 ...................................................................... AC125142
  3709 ...................................................................... AC125166
  3709 ...................................................................... AC133495
  3709 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3790      3800      3810      3820      3830      3840      3850
       ---------+---------+---------+---------+---------+---------+---------+
  3781 TCTCGGCGTGACTCTAACGAAGGAAGTGAAAGATCTGTATGATAAAAACTTCAAGTCCCTGAAGAAAGAA
L1spaSp27to1514
  3779 ...................................................................... AC078790
  3779 ...................................................................... AC102220
  3779 ...................................................................... AC125142
  3779 ...................................................................... AC125166
  3779 ..........T........................................................... AC133495
  3779 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3860      3870      3880      3890      3900      3910      3920
       ---------+---------+---------+---------+---------+---------+---------+
  3851 ATTAAAGAAGATCTCAGAAGATGGAAAGATCTCCCATGCTCATGGATTGGCAGGACCAACATTGTAAAAA
L1spaSp27to1514
  3849 ...................................................................... AC078790
  3849 ...................................................................... AC102220
  3849 ...................................................................... AC125142
  3849 ...................................................................... AC125166
  3849 ...................................................................... AC133495
  3849 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                3930      3940      3950      3960      3970      3980      3990
       ---------+---------+---------+---------+---------+---------+---------+
  3921 TGGCTATCTTGCCAAAAGCAATCTACAGATTCAATGCAATCCCCATTAAAATTCCAACTCAATTCTTCAA
L1spaSp27to1514
  3919 ...................................................................... AC078790
  3919 ...................................................................... AC102220
  3919 ...................................................................... AC125142
  3919 ...................................................................... AC125166
  3919 ...................................................................... AC133495
  3919 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                4000      4010      4020      4030      4040      4050      4060
       ---------+---------+---------+---------+---------+---------+---------+
  3991 CGAATTAGAAGGAGCAATTTGCAAATTCATCTGGAATAACAAAAAACCGAGGATAGCAAAAACTCTTCTC
L1spaSp27to1514
  3989 ...................................................................... AC078790
  3989 ...................................................................... AC102220
  3989 ...................................................................... AC125142
  3989 ...................................................................... AC125166
  3989 ...................................................................... AC133495
  3989 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                4070      4080      4090      4100      4110      4120      4130
       ---------+---------+---------+---------+---------+---------+---------+
  4061 AAGGATAAAAGAACCTCTGGTGGAATCACCATGCCTGACCTAAAGCTTTACTACAGAGCAATTGTGATAA
L1spaSp27to1514
  4059 ...................................................................... AC078790
  4059 ...................................................................... AC102220
  4059 ...................................................................... AC125142
  4059 ...................................................................... AC125166
  4059 ...................................................................... AC133495
  4059 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
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                  4140      4150      4160      4170      4180      4190      4200
         ---------+---------+---------+---------+---------+---------+---------+
    4131 AAACTGCATGGTACTGGTATAGAGACAGACAAGTAGACCAATGGAATAGAATTGAAGACCCAGAAATGAA
L1spaSp27to1514
    4129 ..................................G................................... AC078790
    4129 ..................................G................................... AC102220
    4129 ..................................G................................... AC125142
    4129 ..................................G................................... AC125166
    4129 ..................................G................................... AC133495
    4129 ..................................G................................... AL954355

         ---------+---------+---------+---------+---------+---------+---------+
                  4210      4220      4230      4240      4250      4260      4270
         ---------+---------+---------+---------+---------+---------+---------+
    4201 CCCACACACCTATGGTCACTTGATCTTCGACAAGGGAGCCAAAACCATCCAGTGGAAGAAAGACAGCATT
L1spaSp27to1514
    4199 ...................................................................... AC078790
    4199 ...................................................................... AC102220
    4199 ...................................................................... AC125142
    4199 ...................................................................... AC125166
    4199 ...................................................................... AC133495
    4199 ...................................................................... AL954355

         ---------+---------+---------+---------+---------+---------+---------+
                  4280      4290      4300      4310      4320      4330      4340
         ---------+---------+---------+---------+---------+---------+---------+
    4271 TTCAACAATTGGTGCTGGCACAACTGGTTGTTATCATGTAGAAGAATGCGAATCGATCCATACTTATCTC
L1spaSp27to1514
    4269 ...................................................................... AC078790
    4269 ..............................................A....................... AC102220
    4269 ...................................................................... AC125142
    4269 ...................................................................... AC125166
    4269 ...................................................................... AC133495
    4269 ...................................................................... AL954355

         ---------+---------+---------+---------+---------+---------+---------+
                  4350      4360      4370      4380      4390      4400      4410
         ---------+---------+---------+---------+---------+---------+---------+
    4341 CTTGTACTAAGGTCAAATCTAAGTGGATCAAGGAACTTCACATAAAACCAGAGACACTGAAACTTATAGA
L1spaSp27to1514
    4339 ...................................................................... AC078790
    4339 ...................................................................... AC102220
    4339 ...................................................................... AC125142
    4339 ...................................................................... AC125166
    4339 ...................................................................... AC133495
    4339 ...................................................................... AL954355

         ---------+---------+---------+---------+---------+---------+---------+
                  4420      4430      4440      4450      4460      4470      4480
         ---------+---------+---------+---------+---------+---------+---------+
    4411 GGAGAAAGTGGGGAAAAGTCTTGAAGATATGGGCACAGGGGAAAAATTCCTGAACAGAACAGCAATGGCT
L1spaSp27to1514
    4409 ..................C................................................... AC078790
    4409 ..................C................................................... AC102220
    4409 ..................C................................................... AC125142
    4409 ..................C................................................... AC125166
    4409 ..................C................................................... AC133495
    4409 ..................C................................................... AL954355

         ---------+---------+---------+---------+---------+---------+---------+
                  4490      4500      4510      4520      4530      4540      4550
         ---------+---------+---------+---------+---------+---------+---------+
    4481 TGTGCTGTAAGATCGAGAATTGACAAATGGGACCTAATGAAACTCCAAAGTTTCTGCAAGGCAAAAGACA
L1spaSp27to1514
    4479 ...................................................................... AC078790
    4479 ...................................................................... AC102220
    4479 ...................................................................... AC125142
    4479 ...................................................................... AC125166
    4479 ...................................................................... AC133495
    4479 ...................................................................... AL954355
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       ---------+---------+---------+---------+---------+---------+---------+
                4560      4570      4580      4590      4600      4610      4620
       ---------+---------+---------+---------+---------+---------+---------+
  4551 CTGTCTATAAGACAAAAAGACCACCAACAGACTGGGAAAGGATCTTTACCTATCCTAAATCAGATAGGGG
L1spaSp27to1514
  4549 .......................T.............................................. AC078790
  4549 ...................................................................... AC102220
  4549 ...................................................................... AC125142
  4549 ...................................................................... AC125166
  4549 ...................................................................... AC133495
  4549 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                4630      4640      4650      4660      4670      4680      4690
       ---------+---------+---------+---------+---------+---------+---------+
  4621 ACTAATATCCAACATATATAAAGAACTCAAGAAGGTGGACCTCAGAAAATCAAATAACCCCCTTAAAAAA
L1spaSp27to1514
  4619 ...................................................................... AC078790
  4619 ...................................................................... AC102220
  4619 ...................................................................... AC125142
  4619 ...................................................................... AC125166
  4619 ...................................................................... AC133495
  4619 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                4700      4710      4720      4730      4740      4750      4760
       ---------+---------+---------+---------+---------+---------+---------+
  4691 TGGGGCTCAGAACTGAACAAAGAATTCTCACCTGAGGAATACCGAATGGCAGAGAAGCACCTGAAAAAAT
L1spaSp27to1514
  4689 ...................................................................... AC078790
  4689 ......A............................................................... AC102220
  4689 ...................................................................... AC125142
  4689 ...................................................................... AC125166
  4689 ...................................................................... AC133495
  4689 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                4770      4780      4790      4800      4810      4820      4830
       ---------+---------+---------+---------+---------+---------+---------+
  4761 GTTCAACATCCTTAATCATCAGGGAAATGCAAATCAAAACAACCCTGAGATTCCACCTCACACCAGTGAG
L1spaSp27to1514
  4759 ...................................................................... AC078790
  4759 ...................................................................... AC102220
  4759 ...................................................................... AC125142
  4759 ...................................................................... AC125166
  4759 ...................................................................... AC133495
  4759 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                4840      4850      4860      4870      4880      4890      4900
       ---------+---------+---------+---------+---------+---------+---------+
  4831 AATGGCTAAGATCAAAAATTCAGGTGACAGCAGATGCTGGCGAGGATGTGGAGAAAGAGGAACACTCCTC
L1spaSp27to1514
  4829 ...................................................................... AC078790
  4829 ...................................................................... AC102220
  4829 ...................................................................... AC125142
  4829 ...................................................................... AC125166
  4829 ...................................................................... AC133495
  4829 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                4910      4920      4930      4940      4950      4960      4970
       ---------+---------+---------+---------+---------+---------+---------+
  4901 CATTGTTGGTGGGATTGCAGGCTTGTACAACCACTCTGGAAATCAGTCTGGCGGTTCCTCAGAAAATTGG
L1spaSp27to1514
  4899 ...................................................................... AC078790
  4899 ...................................................................... AC102220
  4899 ...................................................................... AC125142
  4899 ..............G....................................................... AC125166
  4899 ...................................................................... AC133495
  4899 ...................................................................... AL954355
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       ---------+---------+---------+---------+---------+---------+---------+
                4980      4990      5000      5010      5020      5030      5040
       ---------+---------+---------+---------+---------+---------+---------+
  4971 ACATAGTACTACCGGAGGATCCAGCAATACCTCTCCTGGGCATATATCCAGAAGAAGCCCCAACTGGTAA
L1spaSp27to1514
  4969 ...................................................................... AC078790
  4969 ...................................................................... AC102220
  4969 ...................................................................... AC125142
  4969 ...................................................................... AC125166
  4969 ...................................................................... AC133495
  4969 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5050      5060      5070      5080      5090      5100      5110
       ---------+---------+---------+---------+---------+---------+---------+
  5041 GAAGGACACATGCTCCACTATGTTCATAGCAGCCTTATTTATAATAGCCAGAAACTGGAAAGAACCCAGA
L1spaSp27to1514
  5039 ...................................................................... AC078790
  5039 ...................................................................... AC102220
  5039 ...................................................................... AC125142
  5039 ...................................................................... AC125166
  5039 ...................................................................... AC133495
  5039 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5120      5130      5140      5150      5160      5170      5180
       ---------+---------+---------+---------+---------+---------+---------+
  5111 TGCCCCTCAACAGAGGAATGGATACAGAAAATGTGGTACATCTACACAATGGAGTACTACTCAGCTATTA
L1spaSp27to1514
  5109 ...................................................................... AC078790
  5109 ...................................................................... AC102220
  5109 ...................................................................... AC125142
  5109 ...................................................................... AC125166
  5109 ...................................................................... AC133495
  5109 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5190      5200      5210      5220      5230      5240      5250
       ---------+---------+---------+---------+---------+---------+---------+
  5181 AAAAGAATGAATTTATGAAATTCCTAGCCAAATGGATGGACCTGGAGAGCATCATCCTGAGTGAGGTAAC
L1spaSp27to1514
  5179 ...................................................................... AC078790
  5179 ...................................................................... AC102220
  5179 ...................................................................... AC125142
  5179 ...................................................................... AC125166
  5179 ...................................................................... AC133495
  5179 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5260      5270      5280      5290      5300      5310      5320
       ---------+---------+---------+---------+---------+---------+---------+
  5251 ACAATCACAAAGGAACTCACACAATATGTACTCACTGATAAGTGGATACTAGCCCAAAACCTAGGATACC
L1spaSp27to1514
  5249 ...................................................................... AC078790
  5249 ...................................................................... AC102220
  5249 ...................................................................... AC125142
  5249 ...................................................................... AC125166
  5249 ...................................................................... AC133495
  5249 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5330      5340      5350      5360      5370      5380      5390
       ---------+---------+---------+---------+---------+---------+---------+
  5321 CACGATATAAGATACAATTTCCTAAACACATGAAACTCAAGAAAAATGAAGACTGAAGTGTGGACACTAT
L1spaSp27to1514
  5319 ...................................................................... AC078790
  5319 ...................................................................... AC102220
  5319 ...................................................................... AC125142
  5319 ...................................................................... AC125166
  5319 ...................................................................... AC133495
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  5319 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5400      5410      5420      5430      5440      5450      5460
       ---------+---------+---------+---------+---------+---------+---------+
  5391 GCCCCTCCTTAGAAGTGGGAACAAAACACCCATGGAAGGAGTTACAGAAACAAAGTTTGGAGCTGAGATG
L1spaSp27to1514
  5389 ...................................................................... AC078790
  5389 ........................................................A............. AC102220
  5389 ...................................................................... AC125142
  5389 ...................................................................... AC125166
  5389 ........................................................A............. AC133495
  5389 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5470      5480      5490      5500      5510      5520      5530
       ---------+---------+---------+---------+---------+---------+---------+
  5461 AAAGGAGGGACCATGTAGAGACTGCCATATCCAGGGATCCACCCCATAATCAGCATCCAAACGCTGACAC
L1spaSp27to1514
  5459 ......T............................................................... AC078790
  5459 ......T...............................................T......T........ AC102220
  5459 ......T............................................................... AC125142
  5459 ......T............................................................... AC125166
  5459 ......T......................G........................T......T........ AC133495
  5459 ......T............................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5540      5550      5560      5570      5580      5590      5600
       ---------+---------+---------+---------+---------+---------+---------+
  5531 CATTGCATATACTAGCAAGATTTTATCGAAAGGACCCAGATGTAGCTGTCTCTTGTGAGACTATGCCGGG
L1spaSp27to1514
  5529 ...................................................................... AC078790
  5529 .........C...............CT........................................... AC102220
  5529 ...................................................................... AC125142
  5529 ...................................................................... AC125166
  5529 .........C...............CT..........................A................ AC133495
  5529 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5610      5620      5630      5640      5650      5660      5670
       ---------+---------+---------+---------+---------+---------+---------+
  5601 GCCTAGCAAACACAGAAGTGGATGCTCACAGTCAGCTAATGGATGGATCACAGGGCTCCCAATGGAGGAG
L1spaSp27to1514
  5599 ...................................................................... AC078790
  5599 ...................................................................... AC102220
  5599 ...................................................................... AC125142
  5599 ...................................................................... AC125166
  5599 ...................................................................... AC133495
  5599 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5680      5690      5700      5710      5720      5730      5740
       ---------+---------+---------+---------+---------+---------+---------+
  5671 CTAGAGAAAGTACCCAAGGAGCTAAAGGGATCTGCAACCCTATAGGTGGAACAACATTATGAACTAACCA
L1spaSp27to1514
  5669 .................................T.................................... AC078790
  5669 .................................T.................................... AC102220
  5669 .................................T.................................... AC125142
  5669 .................................T.................................... AC125166
  5669 .................................T.................................... AC133495
  5669 .................................T.................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5750      5760      5770      5780      5790      5800      5810
       ---------+---------+---------+---------+---------+---------+---------+
  5741 GTACCCCTGAGCTCTTGACTCTAGCTGCATATGTATCAAAAGATGGCCTAGTCGGCCATCACTGGAAAGA
L1spaSp27to1514
  5739 ...................................................................... AC078790
  5739 ...................................................................... AC102220
  5739 ...................................................................... AC125142
  5739 ...................................................................... AC125166
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  5739 ...................................................................... AC133495
  5739 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5820      5830      5840      5850      5860      5870      5880
       ---------+---------+---------+---------+---------+---------+---------+
  5811 GAGGCCCATTGGACACGCAGACTTTGTGTGCCCCGGTACAGGGGAACGCCAGGGCCAAAGGGGGGGGAGT
L1spaSp27to1514
  5809 ..................................................................-... AC078790
  5809 ..................................................................-... AC102220
  5809 ..................................................................-... AC125142
  5809 ..................................................................-... AC125166
  5809 ..................................................................-... AC133495
  5809 ..................................................................-... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5890      5900      5910      5920      5930      5940      5950
       ---------+---------+---------+---------+---------+---------+---------+
  5881 GGGTGGGTAGGGGAGTGGGGGTGGGTGGGTAAGGGGGACTTTTGGTATAGCATTGGAAATGTAAATGAGC
L1spaSp27to1514
  5878 ...................................................................... AC078790
  5878 ...................................................................... AC102220
  5878 ...................................................................... AC125142
  5878 ...................................................................... AC125166
  5878 ...................................................................... AC133495
  5878 ...................................................................... AL954355

       ---------+---------+---------+---------+---------+---------+---------+
                5960      5970      5980      5990      6000      6010      6020
       ---------+---------+---------+---------+---------+---------+---------+
  5951 TAAATACCTAATAAAAAATGGAAAAAAAATAAAAAAAA-TAAAATAAAAAAAAAGACCATGA-AACATAA
L1spaSp27to1514
  5948 .............................A....T...AA.C.C...T..G.CTTGGG             AC078790
  5948 .............................A........AA..G.AG.T...T.T.C..TCC.AC.T.C.  AC102220
  5948 .............................A....G...A.T.G.CTTTG...T.C.T...A.-T.G.C.. AC125142
  5948 .............................A.T.TCT---CTC..C.TC..TGG.CT               AC125166
  5948 ..................AATG.......A........AA..G.A.GCC.C.TT.GTA.GA.         AC133495
  5948 .............................A........AA....A.........A.GA.GAGGG.GGG.. AL954355
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Supplemental figure 7. Alignment of the spliced L1 elements identified in the mouse genome. Sequences of the full-length mouse L1 elements that underwent splicing (SD and SA sites at positions 27 and 1514 L1spa sequence respectively) and retrotransposed were extracted from the mouse genome and aligned by ClustalW against the L1spa sequence spliced in the same manner (L1spaSp27to1514). Nucleotides that do not match L1spa sequence are shown. Accession numbers corresponding to each contig containing these sequences are shown on the right.