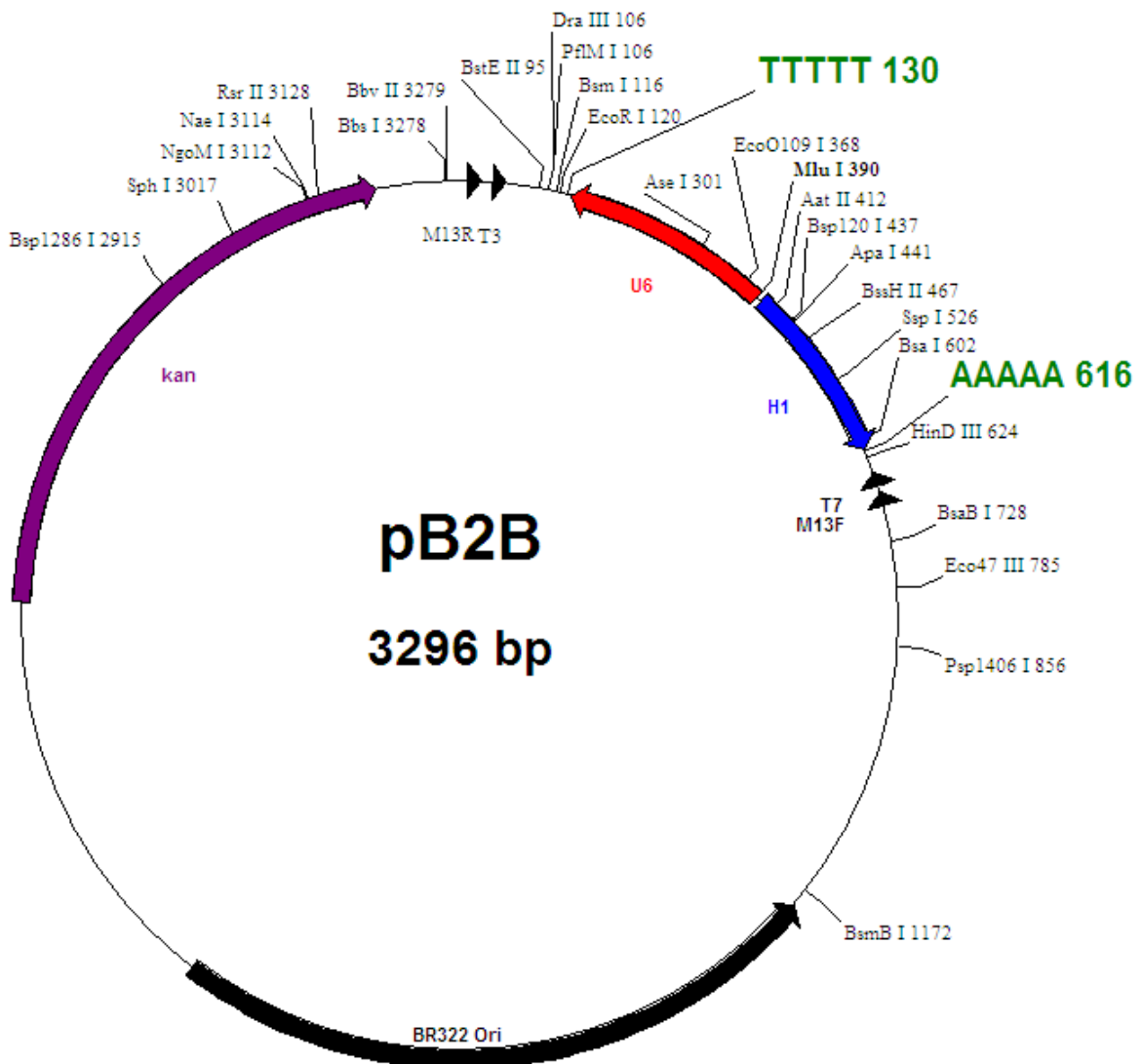


Vector: pB2B

Antibiotic Selection: Kan

Creator(S): Fang Deng, Molecular Oncology Lab of The University of Chicago Medical Center

Date of Construction: June, 2013



pB2B Full-Length Sequence

GGAAACAGCTATGACCATGATTACGCCAAGCTCGAAATTAACCCCTCACTAAAGGGAACAAAAGCTGGTACGAGGACAGGCTG
 GAGCCATGGCTGGTGACCACGTCGTGGAATGCCTTCGAATCCTTTTAAATtcctttccacaagatatataaagccaaGaaa
 tcgaaataactttcaagttacggttaagcatatgatagttccatthtaaaacataattttaaaactgcaactAccaagaaatt
 attactttctacgtcacgtatthttgtaactaatactttgtgtttacagtcaaaattaattcttaAttatctctctaacagcctt
 gtatcgtatatgcaaatatgaaggaatcatgggaaataggccctcttctcctgcccaccttACGCGTaatcgaacgctgacg
 tcatcaaccgctccaaggaatcgcgggcccagtgctcactaggcgggaaacaccagcgcgcgctgcgccctggcaggaagatg
 gctgtgagggacaggggagtggtcgccctgcaatatttgcatgtcgcctatgtgttctgggaaatcacataaacgtgaaatgt
 ctttggatttgggaatcttataagtctgtatgagaccaATTAAAAAAGCTTGCCTAATCGGACGAAAAAATGACCATGA
 TTACGCCAAGCTCCAATTCGCCCTATAGTGAGTCGTATTACAATTCACTGGCCGTCGTTTTACCCGGATCTGCATCGCAGGA
 TGCTGCTGGCTACCCGTGTTGGAACACCTACATCTGTATTAACGAAGCGCTGGCATTGACCCTGAGTGATTTTTCTCTGGTCCC
 GCCGATCCATACCGCCAGTTGTTTACCCTCACAACGTTCCAGTAACCGGGCATGTTTATCATCAGTAACCCGTATCGTGAG
 CATCCTCTCTCGTTTTATCGGTATCATTACCCCATGAACAGAAAATCCCCCTTACACGGAGGCATCAGTGACCAAACAGGAA
 AAAACCGCCCTTAACATGGCCCGCTTTATCAGAAGCCAGACATTAACGCTTCTGGAGAACTCAACGAGCTGGACGCGGATG
 AACAGGCAGACATCTGTGAATCGCTTACGACCACGCTGATGAGCTTACCAGCAGCTGCCTCGCGCTTTCGGTGATGACGG
 TGA AACCTCTGACACATGCAGCTCCCGGAGACGGTCACAGCTTGTCTGTAAGCGGATGCCGGGAGCAGACAAGCCCGTCAG
 GCGCGTCAGCGGTGTTGGCGGTGTCGGGGCGCAGCCATGACCAGTCACGTAGCGATAGCGGAGTGATACTGGCTTAA
 CTATGCGGCATCAGAGCAGATTGTACTGAGAGTGACCATATGCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAATAC
 CGCATCAGGCGCTCTCCGCTTCCCTCGCTCACTGACTCGCTGCGCTCGGTCGTTCCGGCTGCGGCGAGCGGTATCAGCTCACT
 CAAAGGCGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAATGTGAGCAAAAAGCCAGCAAAAAGCCAG
 GAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGT
 CAGAGGTGGCGAAACCCGACAGGACTATAAAGATAACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCGCTCTCTGTCCGA
 CCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCT
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 AACTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGA
 GGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGC
 TCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTT
 TTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTC
 AGTGGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCCACTAGATCTTTTAAATTA
 ATGAAGTTTTAAATCAATCTAAAGTATATATGAGTAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATC
 TCAGCGATCTGTCTATTTCTGTTTCCATAGTTGCCTGACTCCCCGTATTCAAATATGTATCCGCTCATGAGACAATAACC
 CTGATAAATGCTTCAATAATATATGATTGAACAAGATGGATTGCACGCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTC
 GGCTATGACTGGGCACAACAGACAATCGGCTGCTCTGATGCCGCCGTGTTCCGGCTGTCAGCGCAGGGGCGCCCGTTCTTT
 TTGTC AAGACCGACCTGTCCGGTGCCTGAATGAAGTCAAGACGAGGCAGCGCGCTATCGTGGCTGGCCACGACGGGCGT
 TCCTTGCGCAGCTGTGCTCGACGTTGTCACTGAAGCGGGAAGGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTC
 CTGTCATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTA
 CCTGCCCATTCGACCACCAAGCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTGATCAGGATGA
 TCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAACGTTTCGCCAGGCTCAAGGCGAGCATGCCCGACGGCGAGGATCTC
 GTCGTGACCCATGGCGATGCCGCTTGCCGAATATCATGGTGGAAAAATGGCCGCTTTTCTGGATTATCGACTGTGGCCGGC
 TGGGTGTGGCGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCAATGGGCTGACCG
 CTTCTCGTGCTTTACGGTATCGCCGCTCCCGATTGCGAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGACCT
 TTCGTCTTCAAGaatt

Back-to-Back (H1R -MluI- U6F)

tttttAAATtggtctcatcacagttataagattcccaaatccaagacatttcacgtttatggtgatttcccagaacac
 atagcgacatgcaaatattgcagggcgccactcccctgtcctcacagccatcttctgcccagggcgacgcgcgctg
 ggtgttcccgcctagtgacactgggcccgcgattccttgagcgggttgatgacgtcagcgttcgaattACGCGTaaag
 gtcgggcaggaagagggcctatttcccatgattccttcatatttgcataatacagatacaaggctgtagagagataatt
 agaattaatttgactgtaaacacaaagatattagtacaaaatcgtgacgtagaaagtaataatttcttgggtagttt
 gcagttttaaattatgttttaaattggactatcatatgcttaccgtaacttgaaagtatttcgatttcttggcttta
 tataatcttgtggaaaggaATTTaaaaa

The First Cassette Fwd Primer:

5' -tatcttgtggaaaggaATTTaaaaaNb19RtttttAAATtggtctcatcacag-3'

The 1st/2nd Cassette Rev Primer:

3' -tgtggaaaggaATTTaaaaaNb19R-5'

5' -Nb19RtttttAAATtcctttccaca-3'

The 2nd/3rd Cassette Fwd Primer:

5' -Nb19RtttttAAATtggtctcatcacag-3'

The Nth cassette Rev Primer:

3' -tgtggaaaggaATTTaaaaaNn19RtttttAAATtggtctcatcacag-5'

5' -ctgtatgagaccaATTTaaaaaNn19RtttttAAATtcctttccaca-3'

Unique enzymes in PB2B:

| | | |
|------------------------|---------------|------|
| BstE II | G`GTNAC,C | 95 |
| PflM I | CCAN,NNN`NTGG | 106 |
| Dra III | CAC,NNN`GTG | 106 |
| Bsm I | GAATG,C 7 | 116 |
| EcoR I | G`AATT,C | 120 |
| Ase I | AT`TA,AT | 301 |
| Vsp I | AT`TA,AT | 301 |
| EcoO109 I | RG`GNC,CY | 368 |
| Mlu I | A`CGCG,T | 390 |
| Aat II | G,ACGT`C | 412 |
| Bsp120 I | G`GGCC,C | 437 |
| Apa I | G,GGCC`C | 441 |
| BssH II | G`CGCG,C | 467 |
| Ssp I | AAT ATT | 526 |
| Bsa I | GGTCTC 7/11 | 602 |
| HinD III | A`AGCT,T | 624 |
| BsaB I | GATNN NNATC | 728 |
| Eco47 III | AGC GCT | 785 |
| Psp1406 I | AA`CG,TT | 856 |
| BsmB I | CGTCTC 7/11 | 1172 |
| Acc I | GT`MK,AC | 1301 |
| Bst1107 I | GTA TAC | 1302 |
| Xca I | GTA TAC | 1302 |
| AlwN I | CAG,NNN`CTG | 1945 |
| Eag I | C`GGCC,G | 2518 |
| Xma III | C`GGCC,G | 2518 |
| Msc I | TGG CCA | 2694 |
| Fsp I | TGC GCA | 2714 |
| BsrD I | GCAATG, 8 | 2845 |
| Bsp1286 I | G,DGCH`C | 2915 |
| Sph I | G,CATG`C | 3017 |
| NgoM I | G`CCGG,C | 3112 |
| Nae I | GCC GGC | 3114 |
| Nsr II | CG`GWC,CG | 3128 |
| Bbs I | GAAAGC 8/12 | 3278 |
| Bbv II | GAAAGC 7/11 | 3279 |
| Number of enzymes = 36 | | |

The following enzymes do not cut in PB2B:

| | | | | |
|---------|--------|--------|-------|--------|
| Acc65 I | Afl II | Age I | Asc I | Asp718 |
| Ava I | Avr II | BamH I | Bcl I | Bgl I |

| | | | | |
|---------|---------|--------|---------|---------|
| Bgl II | Blp I | BseR I | Bsg I | BsiW I |
| BspM II | BsrG I | BstX I | Bsu36 I | Cla I |
| Eco72 I | EcoN I | EcoR V | Esp I | Fse I |
| HinC II | Hind II | Hpa I | Kpn I | Mun I |
| Nhe I | Not I | Nru I | Nsi I | Paer7 I |
| Pme I | Pml I | PpuM I | PspA I | Pst I |
| Pvu I | Sac I | Sac II | Sal I | Sca I |
| Sfi I | Sma I | SnaB I | Spe I | Spl I |
| Srf I | Stu I | Xba I | Xcm I | Xho I |

PB2B: sites sorted by name:

| | | | | |
|---------|------|------|------|------|
| Aat II | (1) | 412 | | |
| Acc I | (1) | 1301 | | |
| Aci I | (43) | 420 | 435 | 454 |
| | | 823 | 834 | 990 |
| | | 1061 | 1117 | 1202 |
| | | 1251 | 1293 | 1318 |
| | | 1369 | 1395 | 1412 |
| | | 1462 | 1483 | 1574 |
| | | 1729 | 1748 | 1869 |
| | | 2114 | 2123 | 2442 |
| | | 2584 | 2678 | 2742 |
| | | 2846 | 3086 | 3126 |
| | | 3181 | 3197 | 3223 |
| Afl III | (2) | 390 | 1529 | |
| Aha II | (3) | 409 | 515 | 2612 |
| Ahd I | (2) | 2422 | 3282 | |
| Alu I | (17) | 9 | 31 | 64 |
| | | 667 | 1054 | 1111 |
| | | 1171 | 1190 | 1471 |
| | | 1787 | 1833 | 2090 |
| | | 3176 | | 2718 |
| Alw I | (9) | 730 | 2091 | 2177 |
| | | 2274 | 2275 | 2790 |
| | | 3036 | | 2857 |
| AlwN I | (1) | 1945 | | |
| Apa I | (1) | 441 | | |
| ApaL I | (2) | 1345 | 1843 | |
| Apo I | (2) | 120 | 131 | |
| Ase I | (1) | 301 | | |
| Ava II | (2) | 816 | 3128 | |
| Ban I | (4) | 514 | 2370 | 2611 |
| Ban II | (2) | 441 | 2977 | 2646 |

pB2B Vector

| | | | | | | | | | | | |
|-----------|------|------|------|------|------|----------|------|------|------|------|------|
| Bbe I | (2) | 518 | 2615 | | | Fnu4H I | (30) | 742 | 823 | 1120 | 1123 |
| Bbs I | (1) | 3278 | | | | | | 1169 | 1266 | 1319 | 1435 |
| Bbv I | (9) | 1131 | 1180 | 1277 | 1948 | | | 1453 | 1456 | 1574 | 1729 |
| | | 1951 | 2157 | 2685 | 2727 | | | 1872 | 1937 | 1940 | 2146 |
| | | 3248 | | | | | | 2521 | 2573 | 2584 | 2674 |
| Bbv II | (1) | 3279 | | | | | | 2679 | 2716 | 2757 | 2844 |
| Bcn I | (7) | 722 | 870 | 1176 | 1211 | | | 2847 | 2850 | 3086 | 3182 |
| | | 1910 | 2617 | 2777 | | | | 3223 | 3237 | | |
| Bfa I | (3) | 450 | 2024 | 2277 | | Fok I | (8) | 750 | 812 | 890 | 1076 |
| Bpm I | (2) | 102 | 1058 | | | | | 1217 | 2388 | 2936 | 2961 |
| Bsa I | (1) | 602 | | | | Fsp I | (1) | 2714 | | | |
| BsaA I | (3) | 264 | 1283 | 2916 | | Gdi II | (5) | 705 | 2517 | 2519 | 3082 |
| BsaB I | (1) | 728 | | | | | | 3109 | | | |
| BsaH I | (3) | 409 | 515 | 2612 | | Gsu I | (2) | 101 | 1057 | | |
| BsaJ I | (6) | 87 | 425 | 478 | 1689 | Hae I | (4) | 1544 | 1555 | 2007 | 2694 |
| | | 2775 | 3044 | | | Hae II | (5) | 518 | 787 | 1407 | 1777 |
| BsaW I | (3) | 1735 | 1882 | 2643 | | | | 2615 | | | |
| BsiC I | (2) | 118 | 399 | | | Hae III | (12) | 369 | 439 | 708 | 1004 |
| BsiE I | (3) | 1445 | 1869 | 2521 | | | | 1544 | 1555 | 1573 | 2007 |
| BsiHKA I | (4) | 1349 | 1847 | 2725 | 2915 | | | 2520 | 2694 | 3085 | 3112 |
| Bsm I | (1) | 116 | | | | Hga I | (4) | 1066 | 1225 | 1639 | 2217 |
| BsmA I | (3) | 603 | 1173 | 2445 | | HgiA I | (4) | 1349 | 1847 | 2725 | 2915 |
| BsmB I | (1) | 1172 | | | | HgiE II | (2) | 1347 | 2108 | | |
| BsmF I | (3) | 515 | 802 | 2763 | | Hha I | (21) | 469 | 471 | 477 | 517 |
| BsoF I | (30) | 742 | 823 | 1120 | 1123 | | | 786 | 1132 | 1235 | 1265 |
| | | 1169 | 1266 | 1319 | 1435 | | | 1406 | 1439 | 1709 | 1776 |
| | | 1453 | 1456 | 1574 | 1729 | | | 1876 | 2050 | 2159 | 2606 |
| | | 1872 | 1937 | 1940 | 2146 | | | 2614 | 2678 | 2715 | 2981 |
| | | 2521 | 2573 | 2584 | 2674 | | | 3241 | | | |
| | | 2679 | 2716 | 2757 | 2844 | HinD III | (1) | 624 | | | |
| | | 2847 | 2850 | 3086 | 3182 | Hinf I | (11) | 353 | 430 | 588 | 687 |
| | | 3223 | 3237 | | | | | 1085 | 1429 | 1504 | 1900 |
| Bsp120 I | (1) | 437 | | | | | | 2417 | 3097 | 3231 | |
| Bsp1286 I | (1) | 2915 | | | | HinI I | (3) | 409 | 515 | 2612 | |
| BspH I | (2) | 2249 | 2446 | | | HinP I | (21) | 467 | 469 | 475 | 515 |
| BspM I | (2) | 2499 | 2880 | | | | | 784 | 1130 | 1233 | 1263 |
| Bsr I | (11) | 442 | 708 | 838 | 862 | | | 1404 | 1437 | 1707 | 1774 |
| | | 1277 | 1308 | 1936 | 1949 | | | 1874 | 2048 | 2157 | 2604 |
| | | 2063 | 2555 | 2756 | | | | 2612 | 2676 | 2713 | 2979 |
| BsrB I | (4) | 422 | 1462 | 2444 | 3225 | | | 3239 | | | |
| BsrD I | (1) | 2845 | | | | Hpa II | (16) | 721 | 868 | 1175 | 1209 |
| BssH II | (1) | 467 | | | | | | 1736 | 1883 | 1909 | 2099 |
| BssS I | (2) | 1702 | 3204 | | | | | 2517 | 2594 | 2616 | 2644 |
| Bst1107 I | (1) | 1302 | | | | | | 2775 | 2865 | 2932 | 3113 |
| BstB I | (2) | 118 | 399 | | | Hph I | (6) | 106 | 549 | 1150 | 1159 |
| BstE II | (1) | 95 | | | | | | 2266 | 2791 | | |
| BstN I | (5) | 480 | 1557 | 1678 | 1691 | | | 514 | 2611 | | |
| | | 2999 | | | | Kas I | (2) | 514 | 2611 | | |
| BstU I | (12) | 392 | 435 | 469 | 471 | Mae I | (3) | 450 | 2024 | 2277 | |
| | | 1061 | 1130 | 1132 | 1235 | Mae II | (10) | 102 | 258 | 263 | 409 |
| | | 1576 | 2157 | 2678 | 2979 | | | 565 | 856 | 1282 | 2232 |
| BstY I | (7) | 723 | 2170 | 2181 | 2267 | | | 2728 | 2915 | | |
| | | 2279 | 2783 | 3029 | | Mae III | (15) | 95 | 180 | 259 | 445 |
| Cac8 I | (21) | 437 | 469 | 473 | 628 | | | 863 | 886 | 970 | 1183 |
| | | 746 | 788 | 1006 | 1460 | | | 1278 | 1885 | 1948 | 2064 |
| | | 1546 | 1583 | 2143 | 2506 | | | 2347 | 2732 | 3038 | |
| | | 2692 | 2911 | 2977 | 2983 | Mbo I | (13) | 723 | 2095 | 2170 | 2181 |
| | | 3011 | 3015 | 3056 | 3060 | | | 2189 | 2267 | 2279 | 2384 |
| | | 3114 | | | | | | 2783 | 2861 | 2942 | 2951 |
| | | | | | | | | 3029 | | | |
| Cfr10 I | (2) | 2931 | 3112 | | | Mbo II | (9) | 366 | 498 | 1401 | 2190 |
| Csp6 I | (4) | 68 | 272 | 1336 | 2917 | | | 2263 | 2972 | 3182 | 3264 |
| Dde I | (5) | 799 | 1339 | 1804 | 2213 | | | 3279 | | | |
| | | 2379 | | | | Mlu I | (1) | 390 | | | |
| Dpn I | (13) | 725 | 2097 | 2172 | 2183 | Mme I | (2) | 1743 | 1927 | | |
| | | 2191 | 2269 | 2281 | 2386 | Mnl I | (18) | 53 | 65 | 380 | 492 |
| | | 2785 | 2863 | 2944 | 2953 | | | 858 | 916 | 955 | 1135 |
| | | 3031 | | | | | | 1165 | 1427 | 1637 | 1710 |
| DpnII | (13) | 723 | 2095 | 2170 | 2181 | | | 1961 | 2361 | 2527 | 2663 |
| | | 2189 | 2267 | 2279 | 2384 | | | 3020 | 3212 | | |
| | | 2783 | 2861 | 2942 | 2951 | Msc I | (1) | 2694 | | | |
| | | 3029 | | | | Mse I | (15) | 39 | 129 | 208 | 221 |
| Dra I | (6) | 130 | 209 | 222 | 618 | | | 301 | 617 | 776 | 996 |
| | | 2288 | 2307 | | | | | 1028 | 1310 | 2235 | 2287 |
| Dra III | (1) | 106 | | | | | | 2292 | 2306 | 2359 | |
| Drd I | (3) | 1224 | 1637 | 2639 | | Msl I | (2) | 564 | 3049 | | |
| Dsa I | (2) | 87 | 3044 | | | Msp I | (16) | 721 | 868 | 1175 | 1209 |
| Eae I | (5) | 706 | 2518 | 2692 | 3083 | | | 1736 | 1883 | 1909 | 2099 |
| | | 3110 | | | | | | 2517 | 2594 | 2616 | 2644 |
| Eag I | (1) | 2518 | | | | | | 2775 | 2865 | 2932 | 3113 |
| Ear I | (4) | 378 | 1413 | 2956 | 3166 | MspA1 I | (5) | 1122 | 1241 | 1871 | 2116 |
| Eco47 III | (1) | 785 | | | | | | 2718 | | | |
| Eco57 I | (3) | 2076 | 2757 | 3189 | | Nae I | (1) | 3114 | | | |
| EcoO109 I | (1) | 368 | | | | Nar I | (2) | 515 | 2612 | | |
| EcoR I | (1) | 120 | | | | Nci I | (7) | 721 | 869 | 1175 | 1210 |
| EcoR II | (5) | 478 | 1555 | 1676 | 1689 | | | 1909 | 2616 | 2776 | |
| | | 2997 | | | | Nco I | (2) | 87 | 3044 | | |
| Ehe I | (2) | 516 | 2613 | | | Nde I | (2) | 193 | 1352 | | |

pB2B Vector

| | | | | | | | | | | | |
|-----------|------|------|------|------|------|----------|---------------------|----|-----------|---------------------|----|
| NgoM I | (1) | 3112 | | | | BsmA I | GTCTC`/9 | 3 | BsmB I | CGTCTC 7/11 | 1 |
| Nla III | (17) | 20 | 91 | 360 | 535 | BsmF I | GGGAC 15/19 | 3 | BsoF I | GC`N,GC | 30 |
| | | 656 | 876 | 940 | 1003 | Bsp120 I | G`GGCC,C | 1 | Bsp1286 I | G,DGCH`C | 1 |
| | | 1168 | 1273 | 1533 | 2253 | BspH I | T`CATG,A | 2 | BspM I | ACCTGC 10/14 | 2 |
| | | 2450 | 2831 | 3017 | 3048 | BspM II | T`CCGG,A | - | Bsr I | ACT,GG` | 11 |
| | | 3074 | | | | BsrB I | GAG CGG | 4 | BsrD I | GCAATG, 8 | 1 |
| Nla IV | (9) | 85 | 439 | 516 | 818 | BsrG I | T`GTAC,A | - | BssH II | G`CGCG,C | 1 |
| | | 1561 | 1600 | 2372 | 2613 | BssS I | C`TCGT,G | 2 | Bst1107 I | GTA TAC | 1 |
| | | 2648 | | | | BstB I | TT`CG,AA | 2 | BstE II | G`GTNAC,C | 1 |
| Nsp7524 I | (5) | 531 | 872 | 1164 | 1529 | BstN I | CC`W,GG | 5 | BstU I | CG CG | 12 |
| | | 3013 | | | | BstX I | CCAN,NNNN`NTGG | - | BstY I | R`GATC,Y | 7 |
| NspB II | (5) | 1122 | 1241 | 1871 | 2116 | Bsu36 I | CC`TNA,GG | - | Cac8 I | GCN NGC | 21 |
| | | 2718 | | | | Cfr10 I | R`CCGG,Y | 2 | Cla I | AT`CG,AT | - |
| NspH I | (5) | 535 | 876 | 1168 | 1533 | Csp6 I | G`TA,C | 4 | Dde I | C`TNA,G | 5 |
| | | 3017 | | | | Dpn I | GA TC | 13 | DpnII | `GATC, | 13 |
| Pal I | (12) | 369 | 439 | 708 | 1004 | Dra I | TTT AAA | 6 | Dra III | CAC,NNN`GTG | 1 |
| | | 1544 | 1555 | 1573 | 2007 | Drd I | GACNN,NN`NNGTC | 3 | Dsa I | C`CRYG,G | 2 |
| | | 2520 | 2694 | 3085 | 3112 | Eae I | Y`GGCC,R | 5 | Eag I | C`GGCC,G | 1 |
| PflM I | (1) | 106 | | | | Ear I | CTCTC 7/10 | 4 | Eco47 III | AGC GCT | 1 |
| Ple I | (2) | 695 | 1908 | | | Eco57 I | CTGAAG 21/19 | 3 | Eco72 I | CAC GTG | - |
| Psp1406 I | (1) | 856 | | | | EcoN I | CCTNN`N,NNAGG | - | Eco109 I | RG`GNC,CY | 1 |
| Pvu II | (2) | 1122 | 2718 | | | EcoR I | G`AATT,C | 1 | EcoR II | `CCWGG, | 5 |
| Rsa I | (4) | 69 | 273 | 1337 | 2918 | EcoR V | GAT ATC | - | Ehe I | GGC GCC | 2 |
| Rsr II | (1) | 3128 | | | | Esp I | GC`TNA,GC | - | Fnu4H I | GC`N,GC | 30 |
| Sap I | (3) | 1413 | 2956 | 3166 | | Fok I | GGATG 14/18 | 8 | Fse I | GG,CCGG`CC | - |
| Sau3A I | (13) | 723 | 2095 | 2170 | 2181 | Fsp I | TGC GCA | 1 | Gdi II | `YGGC,CG | 5 |
| | | 2189 | 2267 | 2279 | 2384 | Gsu I | CTGGAG 21/19 | 2 | Hae I | WGG CCW | 4 |
| | | 2783 | 2861 | 2942 | 2951 | Hae II | R,CGCG`Y | 5 | Hae III | GG CC | 12 |
| | | 3029 | | | | Hga I | GACGC 9/14 | 4 | HgiA I | G,WGCW`C | 4 |
| Sau96 I | (6) | 368 | 437 | 438 | 816 | HgiE II | ACCNNNNNNGGT -1/132 | - | Hha I | G,CG`C | 21 |
| | | 1003 | 3128 | | | Hinc II | GTY RAC | - | Hind II | GTY RAC | - |
| ScrF I | (12) | 480 | 721 | 869 | 1175 | Hind III | A`AGCT,T | 1 | Hinf I | G`ANT,C | 11 |
| | | 1210 | 1557 | 1678 | 1691 | HinI I | GR`CG,YC | 3 | HinP I | G`CG,C | 21 |
| | | 1909 | 2616 | 2776 | 2999 | Hpa I | GTT AAC | - | Hpa II | C`CG,G | 16 |
| Sec I | (6) | 87 | 425 | 478 | 1689 | Hph I | GGTGA 12/11 | 6 | Kas I | G`GCGC,C | 2 |
| | | 2775 | 3044 | | | Kpn I | G,GTAC`C | - | Mae I | C`TA,G | 3 |
| SfaN I | (16) | 729 | 737 | 833 | 911 | Mae II | A`CG,T | 10 | Mae III | `GTNAC, | 15 |
| | | 973 | 1196 | 1329 | 1367 | Mbo I | `GATC, | 13 | Mbo II | GAAGA 12/11 | 9 |
| | | 1405 | 1625 | 2571 | 2826 | Mlu I | A`CGCG,T | 1 | Mme I | TCCRAC 25/23 | 2 |
| | | 2910 | 2974 | 3042 | 3249 | Mnl I | CCTC 10/10 | 18 | Msc I | TGG CCA | 1 |
| Sfc I | (3) | 680 | 1794 | 1985 | | Mse I | T`TA,A | 15 | Msl I | CAYNN NNRTG | 2 |
| Sph I | (1) | 3017 | | | | Msp I | C`CG,G | 16 | MspAl I | CMG CKG | 5 |
| Ssp I | (1) | 526 | | | | Mun I | C`AATT,G | - | Nae I | GCC GGC | 1 |
| Sty I | (3) | 87 | 425 | 3044 | | Nar I | GG`CG,CC | 2 | Nci I | CC`S,GG | 7 |
| Taq I | (10) | 33 | 118 | 166 | 399 | Nco I | C`CATG,G | 2 | Nde I | CA`TA,TG | 2 |
| | | 1629 | 2725 | 2881 | 2905 | NgoM I | G`CCGG,C | 1 | Nhe I | G`CTAG,C | - |
| | | 2941 | 3103 | | | Nla III | ,CATG` | 17 | Nla IV | GCN NCC | 9 |
| Tfi I | (7) | 353 | 430 | 588 | 1085 | Not I | GC`GGCC,GC | - | Nru I | TCG CGA | - |
| | | 1504 | 3097 | 3231 | | Nsi I | A,TGCA`T | - | Nsp7524 I | R`CATG,Y | 5 |
| Tsp45 I | (8) | 95 | 259 | 445 | 970 | NspB II | CMG CKG | 5 | NspH I | R,CATG`Y | 5 |
| | | 1183 | 1278 | 2732 | 3038 | PaeR7 I | C`TCGA,G | - | Pal I | GG CC | 12 |
| Tth111 I | (3) | 101 | 1276 | 2730 | | PflM I | CCAN,NNN`NTGG | 1 | Ple I | GAGTC 9/10 | 2 |
| Tth111 II | (5) | 991 | 2118 | 2127 | 2157 | Pme I | CTTT AAAC | - | Pml I | CAC GTG | - |
| | | 3048 | | | | PpuM I | RG`GWC,CY | - | Psp1406 I | AA`CG,TT | 1 |
| Vsp I | (1) | 301 | | | | PspA I | C`CCGG,G | - | Pst I | C,TGCA`G | - |
| Xca I | (1) | 1302 | | | | Pvu I | CG,AT`CG | - | Pvu II | CAG CTG | 2 |
| Xho II | (7) | 723 | 2170 | 2181 | 2267 | Rsa I | GT AC | 4 | Rsr II | CG`GWC,CG | 1 |
| | | 2279 | 2783 | 3029 | | Sac I | G,AGCT`C | - | Sac II | CC,GC`GG | - |
| Xma III | (1) | 2518 | | | | Sal I | G`TCGA,C | - | Sap I | GCTCTTC 8/11 | 3 |
| Xmn I | (2) | 114 | 1089 | | | Sau3A I | `GATC, | 13 | Sau96 I | G`GNC,C | 6 |
| | | | | | | Sca I | AGT ACT | - | ScrF I | CC`N,GG | 12 |
| | | | | | | Sec I | C`CNGG,G | 6 | SfaN I | GCATC 9/13 | 16 |
| | | | | | | Sfc I | C`TRYA,G | 3 | Sfi I | GGCCN,NNN`NGGCC | - |
| | | | | | | Sma I | CCC GGG | - | SnaB I | TAC GTA | - |
| | | | | | | Spe I | A`CTAG,T | - | Sph I | G,CATG`C | 1 |
| | | | | | | Spl I | C`GTAC,G | - | Srf I | GCCC GGGC | - |
| | | | | | | Ssp I | AAT ATT | 1 | Stu I | AGG CCT | - |
| | | | | | | Sty I | C`CWWG,G | 3 | Taq I | T`CG,A | 10 |
| | | | | | | Tfi I | G`AWT,C | 7 | Tsp45 I | `GTSAC, | 8 |
| | | | | | | Tth111 I | GACN`N,NGTC | 3 | Tth111 II | CAARCA 16/14 | 5 |
| | | | | | | Vsp I | AT`TA,AT | 1 | Xba I | T`CTAG,A | - |
| | | | | | | Xca I | GTA TAC | 1 | Xcm I | CCANNNN,NN`NNNNTGG- | - |
| | | | | | | Xho I | C`TCGA,G | - | Xho II | R`GATC,Y | 7 |
| | | | | | | Xma I | C`CCGG,G | - | Xma III | C`GGCC,G | 1 |

Site usage in PB2B:

| | | | | | |
|---------|---------------|---|----------|---------------|----|
| Aat II | G,ACGT`C | 1 | Acc I | GT`MK,AC | 1 |
| Acc65 I | G`GTAC,C | - | Aci I | C`CG,C | 43 |
| Afl II | C`TTAA,G | - | Afl III | A`CRYG,T | 2 |
| Age I | A`CCGG,T | - | Aha II | GR`CG,YC | 3 |
| Ahd I | GACNN,N`NNGTC | 2 | Alu I | AG CT | 17 |
| Alw I | GGATC 8/9 | 9 | AlwN I | CAG,NNN`CTG | 1 |
| Apa I | G,GGCC`C | 1 | ApaL I | G`TGCA,C | 2 |
| Apo I | R`AATT,Y | 2 | Asc I | GG`CGCG,CC | - |
| Ase I | AT`TA,AT | 1 | Asp718 | G`GTAC,C | - |
| Ava I | C`YCGR,G | - | Ava II | G`GWC,C | 2 |
| Avr II | C`CTAG,G | - | BamH I | G`GATC,C | - |
| Ban I | G`GYRC,C | 4 | Ban II | G,RCGY`C | 2 |
| Bbe I | G,CGCC`C | 2 | Bbs I | GAAGAC 8/12 | 1 |
| Bbv I | GCAGC 13/17 | 9 | Bbv II | GAAGAC 7/11 | 1 |
| Bcl I | T`GATC,A | - | Bcn I | CC,S`GG | 7 |
| Bfa I | C`TA,G | 3 | Bgl I | GCCN,NNN`NGGC | - |
| Bgl II | A`GATC,T | - | Blp I | GC`TNA,GC | - |
| Bpm I | CTGGAG 22/20 | 2 | Bsa I | GGTCTC 7/11 | 1 |
| BsaA I | YAC GTR | 3 | BsaB I | GATNN NNATC | 1 |
| BsaH I | GR`CG,YC | 3 | BsaJ I | C`CNGG,G | 6 |
| BsaW I | W`CCGG,W | 3 | BseR I | GAGGAG 16/14 | - |
| Bsg I | GTGCAG 22/20 | - | BsiC I | TT`CG,AA | 2 |
| BsiE I | CG,RY`CG | 3 | BsiHKA I | G,WGCW`C | 4 |
| BsiW I | C`GTAC,G | - | Bsm I | GAATG,C 7 | 1 |