



**pJTI™ R4 DEST CMV TO pA**  
6729 bp

Restriction/Methylation Map

| Enzyme | # of cuts | Positions  |
|--------|-----------|--|
| AatI   | 2         | 5872 5915  |
| AatII  | 4         | 4920 5105 5188 5241  |
| Acc65I | 1         | 5447   |
| AccI   | 3         | 3035 3630 4748   |
| AccIII | 2         | 4166 4654  |
| Acil   | 80        | 62 70 85 123(c) 224(c) 371(c) 418 517(c) 626(c) 703(c)<br>747 868(c) 914 1105(c) 1196(c) 1558 1567(c) 1702<br>1812(c) 1933(c) 1952(c) 2079(c) 2107(c) 2198 2219<br>2226 2269(c) 2293 2303 2359(c) 2462(c) 2549 2622(c)<br>2689 2755(c) 2879 2881(c) 2895(c) 2899 3122(c) 3461<br>3656 3728 3822(c) 4186(c) 4481(c) 4485 4833 4854(c)<br>4958 4991 5081(c) 5248(c) 5262(c) 5274(c) 5302(c)<br>5476 5601(c) 5638 5718 5752 5754(c) 5935 5938<br>6059(c) 6099 6101(c) 6105(c) 6148(c) 6163(c) 6230<br>6245 6254(c) 6290(c) 6302 6343(c) 6358(c) 6362(c)<br>6711(c) 6715 |
| AcsI   | 7         | 18 329 4162 5490 6004 6590 6685  |
| Acyl   | 10        | 36 138 273 722 4709 4917 5102 5185 5238 6440   |
| AflII  | 1         | 5880   |
| AflIII | 4         | 2150 2828 5380 6134  |
| AgeI   | 3         | 2822 4633 5579   |
| AluI   | 29        | 909 972 1072 1593 1850 1896 1986 2212 2330 2394<br>2489 2511 2520 2927 3200 3563 4137 4266 4385 4394<br>4594 4743 4797 5455 5839 6197 6327 6471 6563   |
| Alw44I | 4         | 51 590 1836 3262   |
| AlwI   | 20        | 623 627(c) 944 1407(c) 1408 1504(c) 1506 1592 3285<br>3704(c) 3717 4407(c) 4420 4636(c) 4649 4672 5454(c)<br>5467 5825(c) 6619   |
| AlwNI  | 3         | 1741 2545 3390   |
| AosI   | 2         | 1039 2524  |
| ApaI   | 2         | 2887 6118  |
| ApaLI  | 4         | 51 590 1836 3262   |
| ApoI   | 7         | 18 329 4162 5490 6004 6590 6685  |
| AseI   | 4         | 1087 2322 2381 5353  |
| AsnI   | 4         | 1087 2322 2381 5353  |
| Asp700 | 2         | 662 5800   |
| Asp718 | 1         | 5447   |
| AspEI  | 1         | 1262   |
| AspHI  | 9         | 55 594 679 1840 3266 4745 4799 5457 6329   |
| AsuII  | 1         | 2874   |
| AvaI   | 8         | 3293 4621 5546 5648 5834 6349 6466 6718  |
| Avall  | 5         | 199 898 1120 2679 4669   |
| AvilI  | 2         | 1039 2524  |
| BamHI  | 4         | 3709 4412 4641 5459  |
| BanI   | 16        | 137 180 272 293 1309 2406 4471 4894 5447 5507 5582<br>5955 6214 6274 6439 6450   |
| BanII  | 9         | 2572 2887 4622 4745 4799 5457 5890 6118 6329   |
| BbsI   | 1         | 4671(c)  |

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| Bbvl     | 18 | 51(c) 828(c) 1219 1522(c) 1728(c) 1731(c) 1821 2240<br>2258 2339 2507(c) 2550(c) 3579(c) 5421 5799(c)<br>5962(c) 6007(c) 6304(c)   |
| Bcgl     | 1  | 724(c)   |
| Bfal     | 11 | 2 1069 1404 1657 2890 4648 5023 5360 5466 5587<br>5993   |
| Bfrl     | 1  | 5880   |
| BglI     | 7  | 1144 5082 5153 5275 6272 6448 6565   |
| BglII    | 4  | 2527 3715 4773 6067  |
| Bmyl     | 16 | 55 183 594 679 1840 2572 2887 3266 4622 4745 4799<br>5457 5512 5890 6118 6329  |
| Bpml     | 4  | 59(c) 1193 4046(c) 4698(c)   |
| BpuAI    | 1  | 4671(c)  |
| BsaAI    | 1  | 5821   |
| BsaBI    | 5  | 3282 3714 4757 4778 6699   |
| BsaHI    | 10 | 36 138 273 722 4709 4917 5102 5185 5238 6440   |
| Bsal     | 4  | 1196 2650 2834(c) 3153(c)  |
| BsaJI    | 24 | 277 1990 2411 2571 2572 2674 2675 2844 2879 3271<br>3293 3861 3930 3931 4466 4999 5649 5752 5921 6099<br>6248 6249 6426 6585   |
| BsaWI    | 11 | 966 1797 1944 2765 2822 3522 4166 4633 4654 5504<br>5579   |
| BseAI    | 2  | 4166 4654  |
| BsgI     | 3  | 50(c) 5697 6056(c)   |
| BsiEI    | 10 | 220 744 893 1816 2240 2899 4485 5476 6272 6715   |
| BsiHKAI  | 9  | 55 594 679 1840 3266 4745 4799 5457 6329   |
| BsiYI    | 31 | 1672 1951 2117 2135 2309 2559 2590 2591 2641 2676<br>2850 3155 3293 3474 3937 4661 5316 5517 5518 5592<br>5654 5655 5770 5841 5922 6176 6249 6250 6308 6320<br>6381                                      |
| BsII     | 31 | 1672 1951 2117 2135 2309 2559 2590 2591 2641 2676<br>2850 3155 3293 3474 3937 4661 5316 5517 5518 5592<br>5654 5655 5770 5841 5922 6176 6249 6250 6308 6320<br>6381                                      |
| BsmAI    | 14 | 420(c) 1196 2650 2779 2834(c) 3153(c) 3234(c) 3938(c)<br>4716 4925(c) 5975 5994 6195 6539(c)   |
| BsmFI    | 9  | 47 60 2692 4655(c) 4865(c) 5032(c) 5183(c) 5528(c)<br>6109(c)  |
| BsmI     | 2  | 3768(c) 4175(c)  |
| Bsp120I  | 2  | 2883 6114  |
| Bsp1286I | 16 | 55 183 594 679 1840 2572 2887 3266 4622 4745 4799<br>5457 5512 5890 6118 6329  |
| BspEI    | 2  | 4166 4654  |
| BspHI    | 2  | 422 1430   |
| BspMI    | 2  | 3047 6025  |
| BspWI    | 39 | 146 221 293 1144 1532 2104 2218 2285 2369 2413<br>2517 2545 2750 3439 3828 4391 4471 4706 4966 4990<br>5082 5121 5153 5275 5418 5533 5684 5760 5885 5934<br>5972 6154 6163 6263 6272 6281 6448 6565 6720 |
| BsrBI    | 7  | 420(c) 2221(c) 2462 2895 6290 6358 6717(c)   |
| BsrDI    | 3  | 1028 1202(c) 4149(c)   |
| BsrFI    | 9  | 87 183 287 1177 2822 3162 4633 5579 6201   |
| BsrGI    | 3  | 2916 3318 4601   |
| BsrI     | 26 | 7(c) 233(c) 312 617 787(c) 1056 1099 1217 1623   |

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|          |    | 1735(c) 1748(c) 2356 3022(c) 3051 3175 3271 3921<br>4361(c) 4501 5069 5479(c) 5615 5636 6082 6278(c)<br>6712   |
| BssHII   | 1  | 3668   |
| Bst1107I | 1  | 3631   |
| BstBI    | 1  | 2874   |
| BstNI    | 20 | 1991 2004 2125 2413 2573 2676 3272 3932 3988 4467<br>4716 5078 5271 5760 5809 5917 5922 6219 6250 6448   |
| BstUI    | 25 | 371 703 1196 1526 2107 2305 2307 2622 2691 2755<br>2830 2881 3122 3670 5302 5382 5404 5601 5754 5940<br>5964 6101 6163 6227 6343   |
| BstXI    | 4  | 14 3182 5486 6707  |
| BstYI    | 15 | 615 632 1400 1412 1498 1509 2527 3709 3715 4412<br>4641 4773 5459 6067 6611  |
| CfoI     | 31 | 140 275 371 703 1040 1133 1526 1635 1809 1909 1976<br>2246 2279 2307 2372 2525 2755 3196 3670 3672 5414<br>5529 5601 5879 5928 5966 6132 6163 6229 6348 6442                   |
| Cfr10I   | 9  | 87 183 287 1177 2822 3162 4633 5579 6201   |
| Csp45I   | 1  | 2874   |
| Csp6I    | 21 | 41 305 780 2826 2917 3319 3748 4286 4602 4822 4979<br>5029 5062 5117 5142 5397 5448 5629 5818 6433 6480  |
| Ddel     | 12 | 761 1301 1467 1876 3129 3438 3942 4390 5429 6403<br>6534 6633  |
| Dpnl     | 28 | 581 617 634 892 938 956 1297 1402 1414 1492 1500<br>1511 1586 2529 3134 3279 3711 3717 4414 4643 4666<br>4722 4754 4775 5461 5832 6069 6613                                    |
| DpnII    | 28 | 579 615 632 890 936 954 1295 1400 1412 1490 1498<br>1509 1584 2527 3132 3277 3709 3715 4412 4641 4664<br>4720 4752 4773 5459 5830 6067 6611                                    |
| DraI     | 7  | 684 1376 1395 2808 3907 4246 6002  |
| DraII    | 5  | 2542 2884 6114 6151 6390   |
| DraIII   | 1  | 6537   |
| DrdI     | 1  | 2048   |
| DsaI     | 6  | 2879 3861 4999 5752 6099 6426  |
| DsaV     | 34 | 105 195 318 724 1075 1771 1989 2002 2123 2411 2571<br>2674 3222 3270 3292 3293 3428 3930 3986 4465 4671<br>4714 5076 5269 5758 5807 5915 5920 6217 6248 6266<br>6307 6435 6446 |
| EaeI     | 12 | 869 2311 2896 3172 3268 3897 4482 5473 6164 6199<br>6299 6712  |
| EagI     | 4  | 2896 4482 5473 6712  |
| Eam1105I | 1  | 1262   |
| EarI     | 2  | 463(c) 2267(c)   |
| Ecl136II | 4  | 4743 4797 5455 6327  |
| EclXI    | 4  | 2896 4482 5473 6712  |
| Eco57I   | 3  | 596 1608(c) 6570   |
| EcoNI    | 2  | 5590 6318  |
| EcoO109I | 5  | 2542 2884 6114 6151 6390   |
| EcoRI    | 5  | 18 329 4162 5490 6685  |
| EcoRII   | 20 | 1989 2002 2123 2411 2571 2674 3270 3930 3986 4465<br>4714 5076 5269 5758 5807 5915 5920 6217 6248 6446   |
| EcoRV    | 2  | 4629 6697  |
| Esp3I    | 2  | 3938(c) 4716   |
| Fnu4HI   | 46 | 65 85 124 225 518 747 842 869 1208 1536 1742 1745  |

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|         |    | 1810 1953 2108 2226 2229 2247 2328 2521 2549 2564<br>2896 2899 3593 3823 4482 4485 5410 5476 5718 5813<br>5935 5938 5976 6021 6099 6106 6164 6230 6255 6302<br>6318 6344 6712 6715  |
| FnuDII  | 25 | 371 703 1196 1526 2107 2305 2307 2622 2691 2755<br>2830 2881 3122 3670 5302 5382 5404 5601 5754 5940<br>5964 6101 6163 6227 6343  |
| FokI    | 12 | 122 263 323 823 1110 1291 3191(c) 3270(c) 3308(c)<br>3430(c) 4182 4717  |
| Fspl    | 2  | 1039 2524   |
| HaeII   | 7  | 141 276 1910 2280 5929 6349 6443  |
| HaeIII  | 47 | 105 227 871 1138 1218 1676 2110 2128 2139 2313<br>2544 2577 2634 2885 2898 3174 3270 3899 3986 4208<br>4253 4484 5085 5278 5393 5475 5758 5763 5781 5872<br>5915 5920 5934 6063 6098 6116 6153 6166 6201 6205<br>6222 6266 6301 6312 6392 6559 6714 |
| Hgal    | 10 | 44 68(c) 730 1460(c) 2038(c) 4698(c) 4832(c) 6034<br>6111(c) 6349   |
| HgiAI   | 9  | 55 594 679 1840 3266 4745 4799 5457 6329  |
| HhaI    | 31 | 140 275 371 703 1040 1133 1526 1635 1809 1909 1976<br>2246 2279 2307 2372 2525 2755 3196 3670 3672 5414<br>5529 5601 5879 5928 5966 6132 6163 6229 6348 6442  |
| HinPII  | 31 | 138 273 369 701 1038 1131 1524 1633 1807 1907 1974<br>2244 2277 2305 2370 2523 2753 3194 3668 3670 5412<br>5527 5599 5877 5926 5964 6130 6161 6227 6346 6440  |
| HincII  | 5  | 316 3036 3574 4749 5378   |
| HindII  | 5  | 316 3036 3574 4749 5378   |
| HindIII | 1  | 2509  |
| Hinfl   | 15 | 1263 1780 2176 2251 2316 2835 3813 4651 4950 5436<br>5824 5946 6174 6368 6422   |
| HpaII   | 38 | 88 106 184 197 288 297 319 725 967 1077 1144 1178<br>1582 1772 1798 1945 2434 2766 2823 3163 3223 3294<br>3429 3523 3707 4039 4167 4209 4445 4634 4655 4673<br>5505 5580 6202 6268 6309 6436  |
| HphI    | 19 | 535(c) 570 776(c) 1192 1419 2573(c) 3272(c) 3373(c)<br>3877 3919(c) 3931 3987(c) 4123(c) 4125 4131(c)<br>4623(c) 4988(c) 6363(c) 6377   |
| Ital    | 46 | 65 85 124 225 518 747 842 869 1208 1536 1742 1745<br>1810 1953 2108 2226 2229 2247 2328 2521 2549 2564<br>2896 2899 3593 3823 4482 4485 5410 5476 5718 5813<br>5935 5938 5976 6021 6099 6106 6164 6230 6255 6302<br>6318 6344 6712 6715             |
| KasI    | 3  | 137 272 6439  |
| KpnI    | 1  | 5451  |
| Ksp632I | 2  | 463(c) 2267(c)  |
| KspI    | 3  | 2882 5755 6102  |
| MaeI    | 11 | 2 1069 1404 1657 2890 4648 5023 5360 5466 5587<br>5993  |
| MaeII   | 18 | 49 660 1033 1449 2557 2939 3260 3902 4077 4580<br>4917 5102 5185 5226 5238 5694 5820 6482   |
| MaeIII  | 19 | 601 789 942 1000 1331 1614 1730 1793 3024 3578<br>3999 4104 4492 4861 5209 5296 5468 6369 6419  |
| MamI    | 5  | 3282 3714 4757 4778 6699  |
| MboI    | 28 | 579 615 632 890 936 954 1295 1400 1412 1490 1498  |

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|        |    | 1509 1584 2527 3132 3277 3709 3715 4412 4641 4664<br>4720 4752 4773 5459 5830 6067 6611   |
| Mboll  | 12 | 480 589 667 1422 1493(c) 2284 2626 3136(c) 3892<br>4671(c) 5431(c) 6650(c)  |
| Mcrl   | 10 | 220 744 893 1816 2240 2899 4485 5476 6272 6715  |
| Mfel   | 1  | 5572  |
| MLul   | 2  | 2828 5380   |
| MLuNI  | 3  | 3174 3270 3899  |
| Mnll   | 39 | 66 83 125(c) 241(c) 293(c) 889(c) 1095(c) 1242 1323<br>1723 1973(c) 2047 2256(c) 2306 2807 2839(c) 2844(c)<br>2897 3447 3618 4321 4617(c) 4651(c) 4655 4681(c)<br>4823 5555(c) 5644(c) 5774 5862(c) 5905(c) 5907<br>6138(c) 6233 6330(c) 6412 6464 6496(c) 6642 |
| Mrol   | 2  | 4166 4654   |
| MscI   | 3  | 3174 3270 3899  |
| Msel   | 21 | 683 1048 1087 1322 1375 1389 1394 1446 2322 2381<br>2807 2966 3096 3369 3764 3906 4245 4553 5353 5881<br>6001   |
| MslI   | 7  | 156 491 850 1009 3180 3508 4998   |
| MspAII | 11 | 64 626 1567 1812 2330 2520 2881 3822 4266 5754<br>6101  |
| Mspl   | 38 | 88 106 184 197 288 297 319 725 967 1077 1144 1178<br>1582 1772 1798 1945 2434 2766 2823 3163 3223 3294<br>3429 3523 3707 4039 4167 4209 4445 4634 4655 4673<br>5505 5580 6202 6268 6309 6436  |
| MunI   | 1  | 5572  |
| Mval   | 20 | 1991 2004 2125 2413 2573 2676 3272 3932 3988 4467<br>4716 5078 5271 5760 5809 5917 5922 6219 6250 6448  |
| Mvnl   | 25 | 371 703 1196 1526 2107 2305 2307 2622 2691 2755<br>2830 2881 3122 3670 5302 5382 5404 5601 5754 5940<br>5964 6101 6163 6227 6343  |
| Mwol   | 39 | 146 221 293 1144 1532 2104 2218 2285 2369 2413<br>2517 2545 2750 3439 3828 4391 4471 4706 4966 4990<br>5082 5121 5153 5275 5418 5533 5684 5760 5885 5934<br>5972 6154 6163 6263 6272 6281 6448 6565 6720  |
| Nael   | 2  | 89 6203   |
| NarI   | 3  | 138 273 6440  |
| Ncil   | 14 | 107 197 320 726 1077 1773 3224 3294 3295 3430 4673<br>6268 6309 6437  |
| Ncol   | 2  | 3861 4999   |
| Ndel   | 1  | 5126  |
| Ndell  | 28 | 579 615 632 890 936 954 1295 1400 1412 1490 1498<br>1509 1584 2527 3132 3277 3709 3715 4412 4641 4664<br>4720 4752 4773 5459 5830 6067 6611   |
| NgoMI  | 2  | 87 6201   |
| NlaIII | 21 | 155 161 426 819 855 933 943 1434 2154 2500 3194<br>3507 3783 3804 3865 4095 5003 5062 6138 6420 6727  |
| NlaIV  | 42 | 104 139 182 274 295 375 965 1176 1217 1311 2083<br>2122 2408 2635 2680 2760 2885 3064 3711 4414 4473<br>4643 4671 4896 5449 5461 5503 5509 5584 5636 5749<br>5887 5933 5957 6097 6115 6116 6152 6216 6276 6441<br>6452  |
| NotI   | 3  | 2896 4482 6712  |
| Nrul   | 1  | 5404  |

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|----------|----|--|
| Nsil     | 1  | 6729   |
| Nspl     | 3  | 2154 6138 6727   |
| NspV     | 1  | 2874   |
| PaeR7I   | 3  | 4621 6466 6718   |
| PflMI    | 1  | 3937   |
| PinAI    | 3  | 2822 4633 5579   |
| PleI     | 7  | 1271 1774(c) 2259 4659 4958 6376 6416(c)   |
| PmeI     | 1  | 2808   |
| Ppu10I   | 1  | 6725   |
| Psp1406I | 4  | 660 1033 4077 5694   |
| PstI     | 5  | 338 3044 5817 6322 6694  |
| PvuI     | 1  | 893  |
| PvuII    | 3  | 2330 2520 4266   |
| RcaI     | 2  | 422 1430   |
| RsaI     | 21 | 42 306 781 2827 2918 3320 3749 4287 4603 4823 4980<br>5030 5063 5118 5143 5398 5449 5630 5819 6434 6481  |
| SacI     | 4  | 4745 4799 5457 6329  |
| SacII    | 3  | 2882 5755 6102   |
| SalI     | 2  | 3034 4747  |
| SapI     | 1  | 2267(c)  |
| Sau3AI   | 28 | 579 615 632 890 936 954 1295 1400 1412 1490 1498<br>1509 1584 2527 3132 3277 3709 3715 4412 4641 4664<br>4720 4752 4773 5459 5830 6067 6611                                    |
| Sau96I   | 28 | 103 199 226 898 1120 1137 1216 2542 2575 2633 2679<br>2883 2884 4669 5083 5276 5392 5756 5780 5932 6061<br>6096 6114 6115 6151 6265 6311 6390                                  |
| Scal     | 2  | 781 3749   |
| ScrFI    | 34 | 107 197 320 726 1077 1773 1991 2004 2125 2413 2573<br>2676 3224 3272 3294 3295 3430 3932 3988 4467 4673<br>4716 5078 5271 5760 5809 5917 5922 6219 6250 6268<br>6309 6437 6448 |
| SfaNI    | 9  | 7 106(c) 561(c) 810 1001(c) 2053(c) 3834 4319(c) 5002  |
| Sfcl     | 8  | 334 1016 1694 1885 3040 5813 6318 6690   |
| Sful     | 1  | 2874   |
| SmaI     | 1  | 3295   |
| SnoI     | 4  | 51 590 1836 3262   |
| SpeI     | 2  | 5359 5465  |
| SphI     | 1  | 6727   |
| SspBI    | 3  | 2916 3318 4601   |
| Sspl     | 2  | 457 3854   |
| StuI     | 2  | 5872 5915  |
| StyI     | 4  | 277 3861 4999 6585   |
| TaqI     | 15 | 93 608 2052 2659 2838 2874 3035 4407 4622 4748<br>5867 5982 6456 6467 6719   |
| Tfil     | 8  | 2176 2316 2835 3813 5436 5824 5946 6174  |
| ThaI     | 25 | 371 703 1196 1526 2107 2305 2307 2622 2691 2755<br>2830 2881 3122 3670 5302 5382 5404 5601 5754 5940<br>5964 6101 6163 6227 6343   |
| Tru9I    | 21 | 683 1048 1087 1322 1375 1389 1394 1446 2322 2381<br>2807 2966 3096 3369 3764 3906 4245 4553 5353 5881<br>6001  |
| Tsp509I  | 20 | 18 329 829 1084 1390 2378 2453 2470 2968 3757 4162<br>4549 5340 5490 5572 5796 6004 6578 6590 6685   |

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|--------|----|---|
| Van91I | 1  | 3937  |
| XbaI   | 2  | 2889 4647   |
| XhoI   | 3  | 4621 6466 6718  |
| XhoII  | 15 | 615 632 1400 1412 1498 1509 2527 3709 3715 4412<br>4641 4773 5459 6067 6611 |
| XmaI   | 1  | 3293  |
| XmaIII | 4  | 2896 4482 5473 6712   |
| XmnI   | 2  | 662 5800  |

**No cuts:** AscI, AspI, AvrII, BbrPI, BclI, BlnI, Bpu1102I, BsiWI, BspDI, BstEII, Bsu36I, CelII, ClaI, Eco47III, EspI, HpaI, NheI, PacI, PmaCI, PmlI, PpuMI, RsrII, SexAI, SfiI, SgrAI, SnaBI, SwaI, Tth111I, XcmI