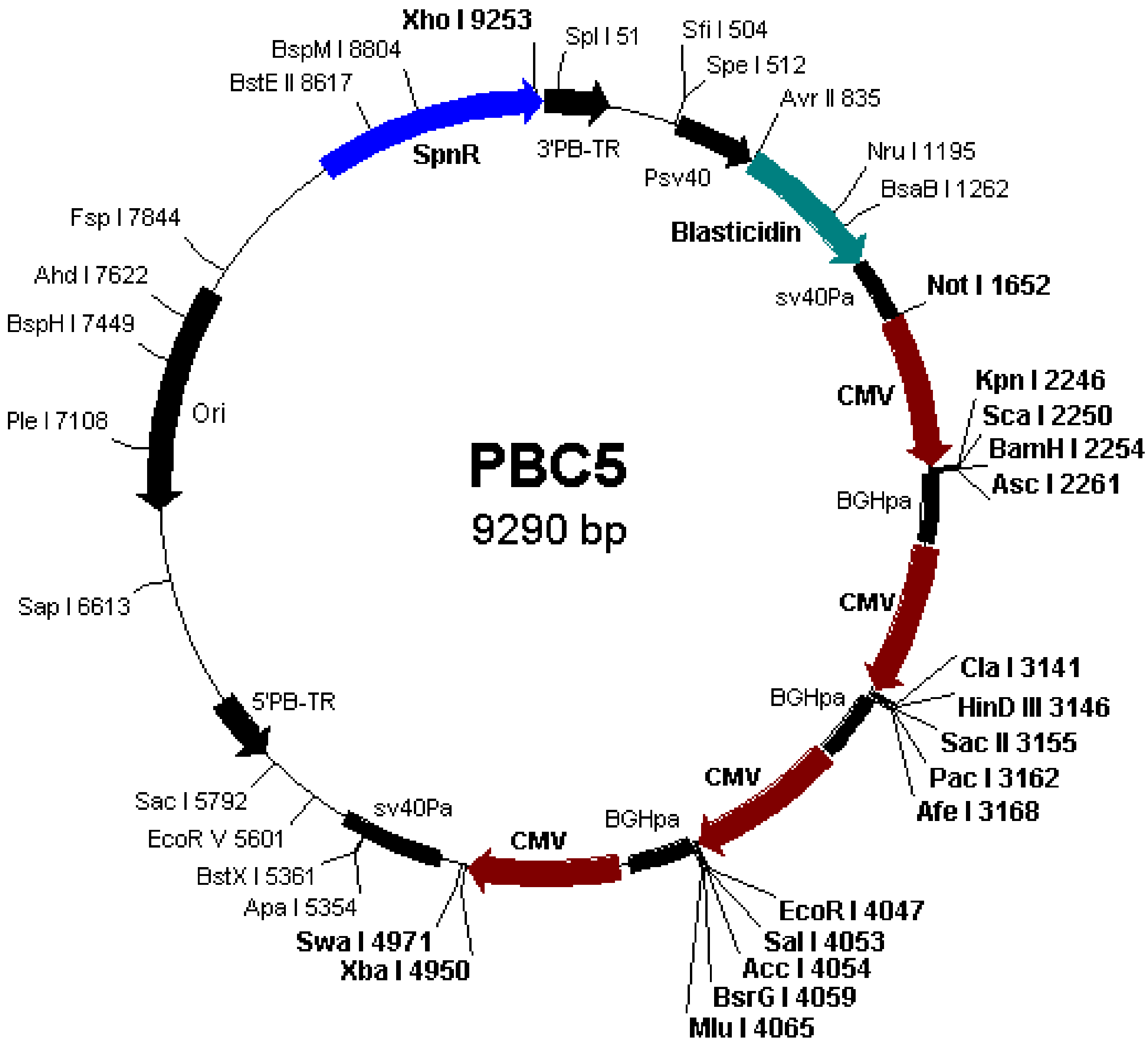
Vector: **PBC5** (MOLab modified piggyBac vector with CMV promoter)

Antibiotic Selection: **Spectinomycin or Blasticin-resistant**

Creator(s): Xian Chen & Palak Shah, Molecular Oncology Lab of The University of Chicago

Date of Construction: January, 2013



PBC5 Vector Sequence

(Spectinomycin or Blasticin-resistant)

CTGCAGAACACGCAGCTAGATTAA**CCCTAGAAAGATAATCATATTGTGACGTACGTTAAAGATAATCATGCGTAAAATTGACGCATG**
TGTTTTATCGGTCTGTATATCGAGGTTTATTTATTAATTTGAATAGATATTAAGTTTTATTATATTTACACTTACATACTAATAATA
AATTCAACAAACAATTTATTTATGTTTATTTATTTATTAAAAAAAAACAAAAACTCAAAATTTCTTCTATAAAGTAACAAAACTTTT
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GAGATCACCAAGGTAGTCGGCAAATAACCCTCGAGCCACCCATGACCAAAATCCCTTAACGTGAGTTA
```

Unique enzymes in PBC5:

BsiW I	C`GTAC,G	51
Spl I	C`GTAC,G	51
Sfi I	GGCCN,NNN`NGGCC	504
Spe I	A`CTAG,T	512
Avr II	C`CTAG,G	835
PpuM I	RG`GWC,CY	1123
Nru I	TCG|CGA	1195
BsaB I	GATNN|NNATC	1262
Not I	GC`GGCC,GC	1652
Acc65 I	G`GTAC,C	2242
Asp718	G`GTAC,C	2242
Kpn I	G,GTAC`C	2246
Sca I	AGT|ACT	2250
BamH I	G`GATC,C	2254
Asc I	GG`CGCG,CC	2261
Cla I	AT`CG,AT	3141
HinD III	A`AGCT,T	3146
Sac II	CC,GC`GG	3155
Pac I	TTA,AT`TAA	3162
Afe I	AGC|GCT	3168
Eco47 III	AGC|GCT	3168
EcoR I	G`AATT,C	4047
Sal I	G`TCGA,C	4053
Acc I	GT`MK,AC	4054
BsrG I	T`GTAC,A	4059
Mlu I	A`CGCG,T	4065
Xba I	T`CTAG,A	4950
Swa I	ATTT|AAAT	4971
EcoN I	CCTNN`N,NNAGG	5345
Bsp120 I	G`GGCC,C	5350

```
Apa I       G,GGCC`C        5354
BstX I      CCAN,NNNN`NTGG  5361
EcoR V      GAT|ATC         5601
Sac I       G,AGCT`C        5792
Sap I       GCTCTTC 8/11    6613
Ear I       CTCTTC 7/10     6613
Ple I       GAGTC 9/10      7108
BspH I      T`CATG,A        7449
Ahd I       GACNN,N`NNGTC   7622
Fsp I       TGC|GCA         7844
Psp1406 I   AA`CG,TT        7848
BstE II     G`GTNAC,C       8617
BspM I      ACCTGC 10/14    8804
PaeR7 I     C`TCGA,G        9253
Xho I       C`TCGA,G        9253
Number of enzymes = 45
```

The following enzymes do not cut in PBC5:

```
Afl II      Age I       Bbe I       Bgl II      BsiC I
BsmB I      Bsp1286 I   Bst1107 I   BstB I      Bsu36 I
Ehe I       Fse I       Hpa I       Kas I       Mun I
Nar I       Nhe I       PflM I      Pme I       Tth111 I
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PBC5: sites sorted by name:

```
Aat II      (16)  1776     1829     1912     2098
                  2674     2727     2810     2996
                  3581     3634     3717     3903
                  4478     4531     4614     4800
Acc I       (1)   4054
Acc65 I     (1)   2242
Aci I       (116) 315      336      348      370
                  393      683      695      704
                  716      726      737      783
                  1083     1165     1232     1416
                  1419     1485     1651     1655
                  1709     1737     1749     1763
                  1930     2021     2054     2158
                  2179     2273     2282     2508
                  2532     2607     2635     2647
                  2661     2828     2919     2952
                  3056     3077     3152     3154
                  3180     3189     3415     3439
                  3514     3542     3554     3568
                  3735     3826     3859     3963
                  3984     4077     4086     4312
                  4336     4411     4439     4451
                  4465     4632     4723     4756
                  4860     4881     5468     5491
                  5513     5525     5546     5730
                  5763     5797     6005     6018
                  6167     6274     6279     6327
                  6364     6419     6522     6578
                  6588     6612     6655     6662
                  6683     6774     6802     6929
                  6948     7069     7179     7314
                  7323     7685     7776     7967
                  8013     8280     8300     8468
                  8565     8577     8644     8707
                  8903     8906     8984     9031
Afe I       (1)   3168
Afl III     (4)   894      1390     4065     6729
Aha II      (18)  1461     1773     1826     1909
                  2095     2671     2724     2807
                  2993     3578     3631     3714
                  3900     4475     4528     4611
                  4797     8511
Ahd I       (1)   7622
Alu I       (31)  16       799      853      863
                  1066     1171     1535     2217
                  3115     3148     4022     4919
                  5156     5790     5916     5959
                  6394     6489     6553     6671
                  6897     6987     7033     7290
                  7811     7911     7974     8221
                  8651     8765     9137
Alw I       (25)  434      888      1278     1469
                  1496     2232     2250     2261
                  2552     3130     3168     3459
                  4037     4356     4934     5428
                  5932     7291     7377     7377
                  7474     7475     7939     8916
                  8945
AlwN I      (4)   2548     3455     4352     7145
Apa I       (1)   5354
ApaL I      (2)   7043     8732
Apo I       (6)   175      233      1570     4047
                  5040     9200
Asc I       (1)   2261
Ase I       (6)   122      906      6265     6500
                  6559     7794
Asp718      (1)   2242
Ava I       (9)   339      377      403      856
                  5456     5482     5520     8349
                  9253
Ava II      (7)   355      1123     5505     7760
                  7982     8256     8897
Avr II      (1)   835
BamH I      (1)   2254
Ban I       (11)  1238     2116     2242     2364
                  3014     3271     3921     4168
                  4818     6473     7570
Ban II      (8)   347      1228     2517     3424
                  4321     5354     5520     5792
Bbs I       (4)   1049     2488     3395     4292
Bbv I       (18)  25       337      340      398
                  1075     1180     1544     5320
                  5419     7148     7151     7357
                  8051     8289     8374     8418
                  8434     8806
Bbv II      (4)   1048     2487     3394     4291
Bcl I       (5)   886      2286     3193     4090
                  8655
Bcn I       (17)  341      342      405      406
                  858      859      1458     5176
                  5325     5458     5459     5522
                  5523     6362     7110     7806
                  8153
Bfa I       (23)  17       28       318      513
                  836      1073     1605     2308
                  2552     3170     3215     3459
                  4112     4356     4951     5075
                  5543     5902     5913     7224
                  7477     7812     9138
Bgl I       (15)  504      1741     1863     1934
                  2639     2761     2832     3546
                  3668     3739     4443     4565
                  4636     7742     9089
Blp I       (2)   1359     8766
Bpm I       (4)   1463     1520     7692     8709
Bsa I       (2)   5170     7683
BsaA I      (10)  895      1393     1991     2889
                  3796     4693     4958     5639
                  5697     9214
BsaB I      (1)   1262
BsaH I      (18)  1461     1773     1826     1909
                  2095     2671     2724     2807
                  2993     3578     3631     3714
                  3900     4475     4528     4611
                  4797     8511
BsaJ I      (44)  289      290      339      340
                  403      476      502      547
                  619      742      777      835
                  856      962      1267     1374
                  2011     2356     2909     3152
                  3263     3816     4160     4713
                  5174     5322     5383     5456
                  5519     5520     5569     5570
                  6037     6148     6468     6889
                  8142     8165     8348     8379
                  8686     8750     8889     9231
BsaW I      (9)   352      2239     5507     6175
                  6187     6935     7082     7913
                  8923
BseR I      (2)   831      1391
Bsg I       (2)   1151     6279
BsiE I      (9)   1083     1199     1655     3180
```

		5734	6645	7069	7992
		8838			
BsiHKA I	(3)	5792	7047	8736	
BsiW I	(1)	51			
Bsm I	(3)	1600	5070	5874	
BsmA I	(7)	982	2084	2982	3889
		4786	5169	7684	
BsmF I	(26)	281	291	410	529
		601	665	1136	1472
		1826	1977	2145	2724
		2875	3043	3631	3782
		3950	4528	4679	4847
		5192	5275	5449	5568
		5578	9013		
BsoF I	(60)	14	326	329	336
		387	454	783	1064
		1083	1157	1160	1163
		1166	1169	1333	1419
		1533	1652	1655	2273
		3180	4077	5309	5408
		5475	5526	5533	5536
		5798	5917	6019	6050
		6053	6168	6280	6327
		6554	6635	6653	6656
		6774	6929	7072	7137
		7140	7346	7674	8013
		8040	8135	8278	8363
		8407	8423	8578	8645
		8795	8904	8984	9081
Bsp120 I	(1)	5350			
BspH I	(1)	7449			
BspM I	(1)	8804			
BspM II	(2)	6175	6187		
Bsr I	(25)	721	1097	1121	1947
		2247	2255	2845	3752
		4649	5227	5337	6158
		6530	7136	7149	7263
		7669	7787	7830	8097
		8192	8257	8995	9091
		9113			
BsrB I	(4)	350	5513	6421	6662
BsrD I	(4)	7683	7857	8806	9099
BsrG I	(1)	4059			
BssH II	(3)	2261	6368	9181	
BssS I	(2)	1138	6902		
BstE II	(1)	8617			
BstN I	(32)	291	477	549	604
		621	1268	1741	1934
		2358	2543	2639	2832
		3265	3450	3546	3739
		4162	4347	4443	4636
		5255	5313	5385	5571
		6149	6316	6469	6757
		6878	6891	8111	8688
BstU I	(26)	1195	1485	1711	2263
		2609	3154	3516	4067
		4413	5730	5836	6007
		6167	6370	6576	6578
		6776	7357	7687	8371
		8644	8709	8772	9065
		9181	9183		
BstX I	(1)	5361			
BstY I	(16)	881	1489	2236	2254
		2545	3134	3172	3452
		4041	4349	4938	7370
		7381	7467	7479	8938
Cac8 I	(54)	333	384	391	467
		562	581	634	653
		1059	1173	1465	1737
		1930	2263	2316	2493
		2497	2635	2828	3223
		3400	3404	3542	3735
		4120	4297	4301	4439
		4632	5396	5472	5479
		5530	5777	5874	5961
		6115	6366	6370	6522
		6551	6660	6746	6783
		7343	7734	8367	8544
		8649	8829	8998	9104

		9108	9183		
Cfr10 I	(8)	382	1463	5477	6228
		6252	7702	9053	9106
Cla I	(1)	3141			
Csp6 I	(34)	52	1869	1894	1949
		1982	2033	2190	2243
		2249	2767	2792	2847
		2880	2931	3088	3674
		3699	3754	3787	3838
		3995	4060	4571	4596
		4651	4684	4735	4892
		4959	8103	8336	8549
		8557	9040		
Dde I	(13)	795	1359	2418	2527
		3325	3434	4222	4331
		5804	7004	7413	7579
		8766			
Dpn I	(42)	429	883	888	1198
		1259	1273	1475	1491
		2238	2256	2288	2547
		3136	3174	3195	3454
		4043	4092	4351	4940
		4977	5434	5927	7297
		7372	7383	7391	7469
		7481	7586	7927	7945
		7991	8474	8657	8837
		8847	8922	8940	9168
		9189	9227		
DpnII	(42)	427	881	886	1196
		1257	1271	1473	1489
		2236	2254	2286	2545
		3134	3172	3193	3452
		4041	4090	4349	4938
		4975	5432	5925	7295
		7370	7381	7389	7467
		7479	7584	7925	7943
		7989	8472	8655	8835
		8845	8920	8938	9166
		9187	9225		
Dra I	(4)	4971	5204	7488	7507
Dra III	(4)	1369	8166	8594	9214
Drd I	(3)	1051	5808	6837	
Dsa I	(11)	502	742	962	2011
		2909	3152	3816	4713
		8165	8379	8750	
Eae I	(12)	505	965	1080	1371
		1652	2270	3177	4074
		6106	6568	8010	8544
Eag I	(3)	1080	1652	3177	
Ear I	(1)	6613			
Eco47 III	(1)	3168			
Eco57 I	(3)	1060	7276	8602	
Eco72 I	(2)	895	1393		
EcoN I	(1)	5345			
EcoO109 I	(2)	1123	5350		
EcoR I	(1)	4047			
EcoR II	(32)	289	475	547	602
		619	1266	1739	1932
		2356	2541	2637	2830
		3263	3448	3544	3737
		4160	4345	4441	4634
		5253	5311	5383	5569
		6147	6314	6467	6755
		6876	6889	8109	8686
EcoR V	(1)	5601			
Esp I	(2)	1359	8766		
Fnu4H I	(60)	14	326	329	336
		387	454	783	1064
		1083	1157	1160	1163
		1166	1169	1333	1419
		1533	1652	1655	2273
		3180	4077	5309	5408
		5475	5526	5533	5536
		5798	5917	6019	6050
		6053	6168	6280	6327
		6554	6635	6653	6656
		6774	6929	7072	7137
		7140	7346	7674	8013
		8040	8135	8278	8363

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                        8407     8423     8578     8645
                        8795     8904     8984     9081
Fok I          (22)     307      359      686      1015
                        1250     1483     2517     3424
                        4321     5173     5500     5552
                        6054     6203     6335     7588
                        7769     8056     8188     8341
                        8585     9086
Fsp I          (1)      7844
Gdi II         (13)     506      1079     1081     1370
                        1651     1653     2269     3176
                        3178     4073     6569     8009
                        8543
Gsu I          (4)      1464     1519     7693     8708
Hae I          (9)      498      834      967      6108
                        6144     6744     6755     7207
                        9176
Hae II         (10)     364      3170     5503     5966
                        6285     6607     6977     8524
                        8954     9103
Hae III        (35)     498      507      776      782
                        834      967      1082     1373
                        1654     1735     1928     2272
                        2633     2826     3179     3540
                        3733     4076     4437     4630
                        5352     6108     6144     6570
                        6744     6755     6773     7207
                        7665     7745     8012     8546
                        8580     9110     9176
Hga I          (13)     89       1042     1468     2176
                        3074     3981     4878     5703
                        5866     6839     7417     8165
                        8501
HgiA I         (3)      5792     7047     8736
HgiE II        (4)      2353     3260     4157     7308
Hha I          (37)     363      1063     1485     2263
                        2265     3169     5502     5838
                        5965     6208     6284     6370
                        6372     6513     6578     6606
                        6639     6909     6976     7076
                        7250     7359     7752     7845
                        8244     8294     8371     8523
                        8711     8772     8799     8953
                        9047     9067     9102     9183
                        9185
HinC II        (3)      900      4055     5251
Hind II        (3)      900      4055     5251
HinD III       (1)      3146
Hinf I         (21)     988      1320     1409     1446
                        2061     2959     3866     4763
                        4947     5125     5337     5723
                        5831     6092     6564     6629
                        6704     7100     7617     8488
                        8701
HinI I         (18)     1461     1773     1826     1909
                        2095     2671     2724     2807
                        2993     3578     3631     3714
                        3900     4475     4528     4611
                        4797     8511
HinP I         (37)     361      1061     1483     2261
                        2263     3167     5500     5836
                        5963     6206     6282     6368
                        6370     6511     6576     6604
                        6637     6907     6974     7074
                        7248     7357     7750     7843
                        8242     8292     8369     8521
                        8709     8770     8797     8951
                        9045     9065     9100     9181
                        9183
Hpa II         (37)     340      353      358      383
                        404      857      1456     1464
                        2240     2258     3176     5174
                        5324     5457     5478     5503
                        5508     5521     6176     6188
                        6229     6239     6253     6361
                        6447     6936     7083     7109
                        7299     7703     7737     7804
                        7914     8151     8924     9054
                        9107
Hph I          (14)     959      2026     2924     3831
                        4728     6137     7466     7693
                        8107     8165     8481     8628
                        8714     9221
Kpn I          (1)      2246
Mae I          (23)     17       28       318      513
                        836      1073     1605     2308
                        2552     3170     3215     3459
                        4112     4356     4951     5075
                        5543     5902     5913     7224
                        7477     7812     9138
Mae II         (42)     50       54       304      894
                        1392     1773     1785     1826
                        1909     1990     2095     2671
                        2683     2724     2807     2888
                        2993     3578     3590     3631
                        3714     3795     3900     4475
                        4487     4528     4611     4692
                        4797     4957     5557     5638
                        5696     6061     6078     6295
                        7432     7848     8537     9023
                        9213     9282
Mae III        (35)     46       248      1544     1712
                        1799     2148     2610     2697
                        3046     3517     3604     3953
                        4414     4501     4850     5014
                        5692     5752     6355     7085
                        7148     7264     7547     7878
                        7936     8089     8154     8285
                        8372     8416     8611     8617
                        8719     9049     9287
Mbo I          (42)     427      881      886      1196
                        1257     1271     1473     1489
                        2236     2254     2286     2545
                        3134     3172     3193     3452
                        4041     4090     4349     4938
                        4975     5432     5925     7295
                        7370     7381     7389     7467
                        7479     7584     7925     7943
                        7989     8472     8655     8835
                        8845     8920     8938     9166
                        9187     9225
Mbo II         (16)     231      996      1053     1081
                        1499     2492     3399     4296
                        5996     6601     7390     7463
                        8813     9172     9175     9208
Mlu I          (1)      4065
Mme I          (3)      6943     7127     9175
Mnl I          (62)     103      258      318      446
                        508      766      772      795
                        801      809      812      824
                        944      1005     1346     1347
                        1369     1486     2192     2302
                        2344     2390     2465     2522
                        3090     3209     3251     3297
                        3372     3429     3997     4106
                        4148     4194     4269     4326
                        4894     5284     5417     5545
                        5789     5975     6002     6032
                        6296     6578     6627     6837
                        6910     7161     7561     7642
                        7788     7994     8133     8357
                        8454     8494     8902     8941
                        9186     9261
Msc I          (2)      967      6108
Mse I          (28)     22       57       122      138
                        212      906      3158     3162
                        4970     5196     5203     5680
                        5687     5908     6121     6265
                        6500     6559     7435     7487
                        7492     7506     7559     7794
                        7833     8450     8966     9279
Msl I          (8)      2016     2914     3821     4718
                        5359     7874     8033     8729
Msp I          (37)     340      353      358      383
                        404      857      1456     1464
                        2240     2258     3176     5174
                        5324     5457     5478     5503
                        5508     5521     6176     6188
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                    6229     6239     6253     6361
                    6447     6936     7083     7109
                    7299     7703     7737     7804
                    7914     8151     8924     9054
                    9107
MspA1 I      (11)   1171     2284     3154     3191
                    4088     6274     6553     7071
                    7316     8280     8903
Nae I        (4)    384      1465     5479     9108
Nci I        (17)   340      341      404      405
                    857      858      1457     5175
                    5324     5457     5458     5521
                    5522     6361     7109     7805
                    8152
Nco I        (6)    742      962      2011     2909
                    3816     4713
Nde I        (5)    1885     2783     3690     4587
                    4963
NgoM I       (4)    382      1463     5477     9106
Nla III      (36)   71       88       583      655
                    746      966      1498     1646
                    1955     2015     2499     2853
                    2913     3406     3760     3820
                    4303     4657     4717     5116
                    5653     5713     5876     6025
                    6089     6113     6343     6387
                    6733     7453     7944     7954
                    8032     8068     8311     9267
Nla IV       (25)   346      553      625      1124
                    1240     2118     2244     2256
                    2366     3016     3273     3923
                    4170     4820     5352     5517
                    6475     6761     6800     7572
                    7666     7707     7918     8563
                    8928
Not I        (1)    1652
Nru I        (1)    1195
Nsi I        (3)    585      657      5874
Nsp7524 I    (8)    84       579      651      2495
                    3402     4299     5872     6729
NspB II      (11)   1171     2284     3154     3191
                    4088     6274     6553     7071
                    7316     8280     8903
NspH I       (8)    88       583      655      2499
                    3406     4303     5876     6733
Pac I        (1)    3162
PaeR7 I      (1)    9253
Pal I        (35)   498      507      776      782
                    834      967      1082     1373
                    1654     1735     1928     2272
                    2633     2826     3179     3540
                    3733     4076     4437     4630
                    5352     6108     6144     6570
                    6744     6755     6773     7207
                    7665     7745     8012     8546
                    8580     9110     9176
Ple I        (1)    7108
Pml I        (2)    895      1393
PpuM I       (1)    1123
Psp1406 I    (1)    7848
PspA I       (5)    339      403      856      5456
                    5520
Pst I        (3)    6        471      5396
Pvu I        (3)    1199     7992     8838
Pvu II       (2)    1171     6553
Rsa I        (34)   53       1870     1895     1950
                    1983     2034     2191     2244
                    2250     2768     2793     2848
                    2881     2932     3089     3675
                    3700     3755     3788     3839
                    3996     4061     4572     4597
                    4652     4685     4736     4893
                    4960     8104     8337     8550
                    8558     9041
Rsr II       (2)    355      5505
Sac I        (1)    5792
Sac II       (1)    3155
Sal I        (1)    4053
Sap I        (1)    6613
Sau3A I      (42)   427      881      886      1196
                    1257     1271     1473     1489
                    2236     2254     2286     2545
                    3134     3172     3193     3452
                    4041     4090     4349     4938
                    4975     5432     5925     7295
                    7370     7381     7389     7467
                    7479     7584     7925     7943
                    7989     8472     8655     8835
                    8845     8920     8938     9166
                    9187     9225
Sau96 I      (20)   355      1123     1734     1927
                    2632     2825     3539     3732
                    4436     4629     5350     5351
                    5505     7664     7743     7760
                    7982     8256     8897     9109
Sca I        (1)    2250
ScrF I       (49)   291      340      341      404
                    405      477      549      604
                    621      857      858      1268
                    1457     1741     1934     2358
                    2543     2639     2832     3265
                    3450     3546     3739     4162
                    4347     4443     4636     5175
                    5255     5313     5324     5385
                    5457     5458     5521     5522
                    5571     6149     6316     6361
                    6469     6757     6878     6891
                    7109     7805     8111     8152
                    8688
Sec I        (44)   289      290      339      340
                    403      476      502      547
                    619      742      777      835
                    856      962      1267     1374
                    2011     2356     2909     3152
                    3263     3816     4160     4713
                    5174     5322     5383     5456
                    5519     5520     5569     5570
                    6037     6148     6468     6889
                    8142     8165     8348     8379
                    8686     8750     8889     9231
SfaN I       (28)   380      591      663      1036
                    1093     1225     1271     1571
                    2009     2414     2496     2907
                    3321     3403     3814     4218
                    4300     4711     5041     5479
                    5927     5982     6216     6314
                    6825     7877     8070     8362
Sfc I        (8)    2        467      1047     5392
                    6994     7185     7863     8712
Sfi I        (1)    504
Sma I        (5)    341      405      858      5458
                    5522
SnaB I       (5)    1991     2889     3796     4693
                    4958
Spe I        (1)    512
Sph I        (6)    583      655      2499     3406
                    4303     5876
Spl I        (1)    51
Srf I        (2)    405      5458
Ssp I        (2)    5200     5860
Stu I        (2)    498      834
Sty I        (10)   742      835      962      2011
                    2909     3816     4713     8142
                    8889     9231
Swa I        (1)    4971
Taq I        (18)   108      1256     1407     2295
                    3141     3202     4054     4099
                    4945     6829     8126     8386
                    8486     8517     8529     8823
                    8838     9254
Tfi I        (11)   988      1320     1409     1446
                    4947     5337     5831     6092
                    6564     6704     8701
Tsp45 I      (8)    46       5692     5752     7878
                    8089     8154     8617     8719
Tth111 II    (11)   198      2318     3225     4061
                    4122     5787     7318     7327
                    7357     8374     8381
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Vsp I       (6)   122      906      6265     6500
                  6559     7794
Xba I       (1)   4950
Xho I       (1)   9253
Xho II      (16)  881      1489     2236     2254
                  2545     3134     3172     3452
                  4041     4349     4938     7370
                  7381     7467     7479     8938
Xma I       (5)   339      403      856      5456
                  5520
Xma III     (3)   1080     1652     3177
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Site usage in PBC5:

```
Aat II     G,ACGT`C         16    Acc I      GT`MK,AC         1
Acc65 I    G`GTAC,C         1     Aci I      C`CG,C           116
Afe I      AGC|GCT          1     Afl II     C`TTAA,G         -
Afl III    A`CRYG,T         4     Age I      A`CCGG,T         -
Aha II     GR`CG,YC         18    Ahd I      GACNN,N`NNGTC    1
Alu I      AG|CT            31    Alw I      GGATC 8/9        25
AlwN I     CAG,NNN`CTG      4     Apa I      G,GGCC`C         1
ApaL I     G`TGCA,C         2     Apo I      R`AATT,Y         6
Asc I      GG`CGCG,CC       1     Ase I      AT`TA,AT         6
Asp718     G`GTAC,C         1     Ava I      C`YCGR,G         9
Ava II     G`GWC,C          7     Avr II     C`CTAG,G         1
BamH I     G`GATC,C         1     Ban I      G`GYRC,C         11
Ban II     G,RGCY`C         8     Bbe I      G,GCGC`C         -
Bbs I      GAAGAC 8/12      4     Bbv I      GCAGC 13/17      18
Bbv II     GAAGAC 7/11      4     Bcl I      T`GATC,A         5
Bcn I      CC,S`GG          17    Bfa I      C`TA,G           23
Bgl I      GCCN,NNN`NGGC    15    Bgl II     A`GATC,T         -
Blp I      GC`TNA,GC        2     Bpm I      CTGGAG 22/20     4
Bsa I      GGTCTC 7/11      2     BsaA I     YAC|GTR          10
BsaB I     GATNN|NNATC      1     BsaH I     GR`CG,YC         18
BsaJ I     C`CNNG,G         44    BsaW I     W`CCGG,W         9
BseR I     GAGGAG 16/14     2     Bsg I      GTGCAG 22/20     2
BsiC I     TT`CG,AA         -     BsiE I     CG,RY`CG         9
BsiHKA I   G,WGCW`C         3     BsiW I     C`GTAC,G         1
Bsm I      GAATG,C 7        3     BsmA I     GTCTC`/9         7
BsmB I     CGTCTC 7/11      -     BsmF I     GGGAC 15/19      26
BsoF I     GC`N,GC          60    Bsp120 I   G`GGCC,C         1
Bsp1286 I  G,DGCH`C         -     BspH I     T`CATG,A         1
BspM I     ACCTGC 10/14     1     BspM II    T`CCGG,A         2
Bsr I      ACT,GG`          25    BsrB I     GAG|CGG          4
BsrD I     GCAATG, 8        4     BsrG I     T`GTAC,A         1
BssH II    G`CGCG,C         3     BssS I     C`TCGT,G         2
Bst1107 I  GTA|TAC          -     BstB I     TT`CG,AA         -
BstE II    G`GTNAC,C        1     BstN I     CC`W,GG          32
BstU I     CG|CG            26    BstX I     CCAN,NNNN`NTGG   1
BstY I     R`GATC,Y         16    Bsu36 I    CC`TNA,GG        -
Cac8 I     GCN|NGC          54    Cfr10 I    R`CCGG,Y         8
Cla I      AT`CG,AT         1     Csp6 I     G`TA,C           34
Dde I      C`TNA,G          13    Dpn I      GA|TC            42
DpnII      `GATC,           42    Dra I      TTT|AAA          4
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Dra III    CAC,NNN`GTG      4     Drd I      GACNN,NN`NNGTC   3
Dsa I      C`CRYG,G         11    Eae I      Y`GGCC,R         12
Eag I      C`GGCC,G         3     Ear I      CTCTTC 7/10      1
Eco47 III  AGC|GCT          1     Eco57 I    CTGAAG 21/19     3
Eco72 I    CAC|GTG          2     EcoN I     CCTNN`N,NNAGG    1
EcoO109 I  RG`GNC,CY        2     EcoR I     G`AATT,C         1
EcoR II    `CCWGG,          32    EcoR V     GAT|ATC          1
Ehe I      GGC|GCC          -     Esp I      GC`TNA,GC        2
Fnu4H I    GC`N,GC          60    Fok I      GGATG 14/18      22
Fse I      GG,CCGG`CC       -     Fsp I      TGC|GCA          1
Gdi II     `YGGC,CG         13    Gsu I      CTGGAG 21/19     4
Hae I      WGG|CCW          9     Hae II     R,GCGC`Y         10
Hae III    GG|CC            35    Hga I      GACGC 9/14       13
HgiA I     G,WGCW`C         3     HgiE II    ACCNNNNNNNGGT -1/134
Hha I      G,CG`C           37    HinC II    GTY|RAC          3
Hind II    GTY|RAC          3     HinD III   A`AGCT,T         1
Hinf I     G`ANT,C          21    HinI I     GR`CG,YC         18
HinP I     G`CG,C           37    Hpa I      GTT|AAC          -
Hpa II     C`CG,G           37    Hph I      GGTGA 12/11      14
Kas I      G`GCGC,C         -     Kpn I      G,GTAC`C         1
Mae I      C`TA,G           23    Mae II     A`CG,T           42
Mae III    `GTNAC,          35    Mbo I      `GATC,           42
Mbo II     GAAGA 12/11      16    Mlu I      A`CGCG,T         1
Mme I      TCCRAC 25/23     3     Mnl I      CCTC 10/10       62
Msc I      TGG|CCA          2     Mse I      T`TA,A           28
Msl I      CAYNN|NNRTG      8     Msp I      C`CG,G           37
MspA1 I    CMG|CKG          11    Mun I      C`AATT,G         -
Nae I      GCC|GGC          4     Nar I      GG`CG,CC         -
Nci I      CC`S,GG          17    Nco I      C`CATG,G         6
Nde I      CA`TA,TG         5     NgoM I     G`CCGG,C         4
Nhe I      G`CTAG,C         -     Nla III    ,CATG`           36
Nla IV     GGN|NCC          25    Not I      GC`GGCC,GC       1
Nru I      TCG|CGA          1     Nsi I      A,TGCA`T         3
Nsp7524 I  R`CATG,Y         8     NspB II    CMG|CKG          11
NspH I     R,CATG`Y         8     Pac I      TTA,AT`TAA       1
PaeR7 I    C`TCGA,G         1     Pal I      GG|CC            35
PflM I     CCAN,NNN`NTGG    -     Ple I      GAGTC 9/10       1
Pme I      CTTT|AAAC        -     Pml I      CAC|GTG          2
PpuM I     RG`GWC,CY        1     Psp1406 I  AA`CG,TT         1
PspA I     C`CCGG,G         5     Pst I      C,TGCA`G         3
Pvu I      CG,AT`CG         3     Pvu II     CAG|CTG          2
Rsa I      GT|AC            34    Rsr II     CG`GWC,CG        2
Sac I      G,AGCT`C         1     Sac II     CC,GC`GG         1
Sal I      G`TCGA,C         1     Sap I      GCTCTTC 8/11     1
Sau3A I    `GATC,           42    Sau96 I    G`GNC,C          20
Sca I      AGT|ACT          1     ScrF I     CC`N,GG          49
Sec I      C`CNNG,G         44    SfaN I     GCATC 9/13       28
Sfc I      C`TRYA,G         8     Sfi I      GGCCN,NNN`NGGCC  1
Sma I      CCC|GGG          5     SnaB I     TAC|GTA          5
Spe I      A`CTAG,T         1     Sph I      G,CATG`C         6
Spl I      C`GTAC,G         1     Srf I      GCCC|GGGC        2
Ssp I      AAT|ATT          2     Stu I      AGG|CCT          2
Sty I      C`CWWG,G         10    Swa I      ATTT|AAAT        1
Taq I      T`CG,A           18    Tfi I      G`AWT,C          11
Tsp45 I    `GTSAC,          8     Tth111 I   GACN`N,NGTC      -
Tth111 II  CAARCA 16/14     11    Vsp I      AT`TA,AT         6
Xba I      T`CTAG,A         1     Xca I      GTA|TAC          -
Xcm I      CCANNNN,N`NNNNTGG-     Xho I      C`TCGA,G         1
Xho II     R`GATC,Y         16    Xma I      C`CCGG,G         5
Xma III    C`GGCC,G         3     Xmn I      GAANN|NNTTC      -
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