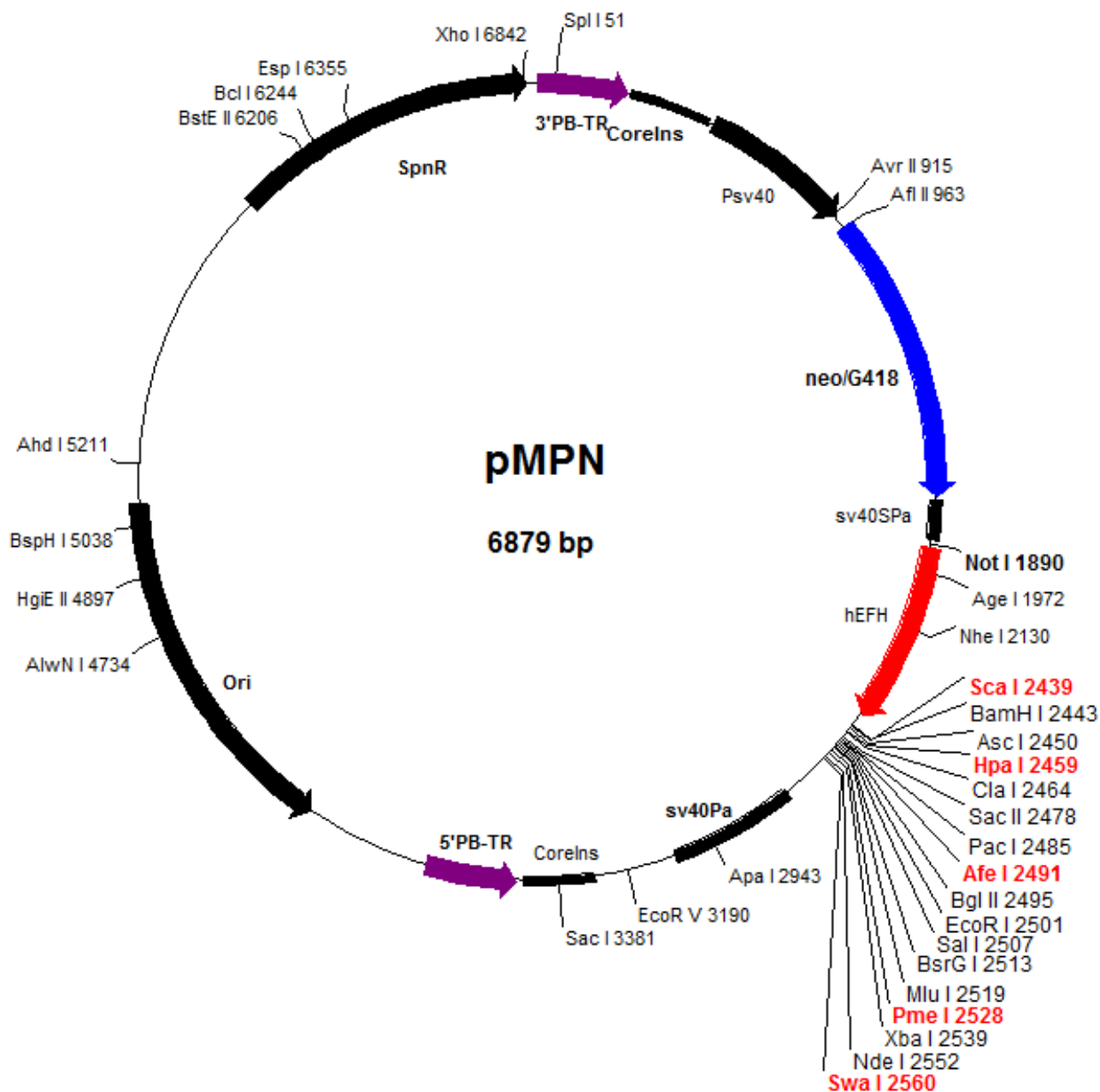


Vector: pMPN (modified PiggyBac vector-neomycin/G418 resistance)

Antibiotic Selection: Spectinomycin-resistant

Creator(s): Ning Wang, Molecular Oncology Lab of The University of Chicago Medical Center

Date of Construction: April 2012



pMPN Vector Sequence (Spectinomycin-resistant)

CTGCAGAACACGCAGCTAGATTAAACCTAGAAAGATAATCATATTGTGACGTACGTTAAAGATAATCATCGCTAAAATTGACCCATG
TGTTTTTATCGGTCTGTATATCGAGGTTTATTTATTAATTTGAATAGATATTAAGTTTTTATTATATTTTACACTTACATACTAATAATA
AATTCACAAACAATTTATTTATGTTTATTTATTTATTTAAAAAACAACAAAACCTCAAAATTTCTTCTATAAAAGTAACAAAACTTTT
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GCTCCGGTCCGGCGCTCCCCCGCATCCCCGAGCCGGCAGCGTGCAGGGACAGCCGGGCACGGGGAAGGTGGCACGGGATCGCTTT
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AGAATTTGTCCACTACGTGAAAGGCGAGATCACCAAGGTAGTCGGCAATAACCCTCGAGCCACCAATGACCAAAAATCCCTTAACGT
GAGTTA

Unique enzymes in pMPN:

BsiW I	C`GTAC,G	51	Acc I	(1)	2508			
Spl I	C`GTAC,G	51	Acc65 I	(2)	565	2431		
BseR I	GAGGAG 16/14	911	Aci I	(86)	315	336	348	370
Avr II	C`CTAG,G	915			393	578	763	775
Afl II	C`TTAA,G	963			784	796	806	817
Tth111 I	GACN`N,NGTC	1227			863	1018	1081	1175
Bsp1286 I	G,DGCH`C	1412			1239	1340	1343	1583
Not I	GC`GGCC,GC	1890			1623	1628	1678	1694
Mun I	C`AATT,G	1965			1720	1776	1835	1889
Age I	A`CCGG,T	1972			1893	1994	2031	2111
Nhe I	G`CTAG,C	2130			2167	2170	2185	2216
Bsu36 I	CC`TNA,GG	2179			2223	2250	2475	2477
Sca I	AGT ACT	2439			3057	3080	3102	3114
BamH I	G`GATC,C	2443			3135	3319	3352	3386
Asc I	GG`CGCG,CC	2450			3594	3607	3756	3863
Hpa I	GTT AAC	2459			3868	3916	3953	4008
Cla I	AT`CG,AT	2464			4111	4167	4177	4201
Sac II	CC,GC`GG	2478			4244	4251	4272	4363
Pac I	TTA,AT`TAA	2485			4391	4518	4537	4658
Afe I	AGC GCT	2491			4768	4903	4912	5274
Eco47 III	AGC GCT	2491			5365	5556	5602	5869
Bgl II	A`GATC,T	2495			5889	6057	6154	6166
EcoR I	G`AATT,C	2501			6233	6296	6492	6495
Sal I	G`TCGA,C	2507	Afe I	(1)	2491			
Acc I	GT`MK,AC	2508	Afl II	(1)	963			
BsrG I	T`GTAC,A	2513	Afl III	(2)	2519	4318		
Mlu I	A`CGCG,T	2519	Age I	(1)	1972			
Pme I	CTTT AAAC	2528	Aha II	(4)	1109	1811	2423	6100
Xba I	T`CTAG,A	2539	Ahd I	(1)	5211			
SnaB I	TAC GTA	2547	Alu I	(31)	16	591	879	933
Nde I	CA`TA,TG	2552			1215	1673	2124	2130
Swa I	ATTT AAAT	2560			2134	2272	2413	2471
EcoO109 I	RG`GNC,CY	2939			2745	3379	3505	3548
Bsp120 I	G`GGCC,C	2939			3983	4078	4142	4260
Apa I	G,GGCC`C	2943			4486	4576	4622	4879
EcoR V	GAT ATC	3190			5400	5500	5563	5810
Sac I	G,AGCT`C	3381			6240	6354	6726	
AlwN I	CAG,NNN`CTG	4734	Alw I	(17)	434	1287	1354	1533
HgiE II	ACCNNNNNNGGT -1/134897				2401	2439	2450	3017
BspH I	T`CATG,A	5038			3521	4880	4966	4966
Ahd I	GACNN,N`NNGTC	5211			5063	5064	5528	6505
BstE II	G`GTNAC,C	6206			6534			
Bcl I	T`GATC,A	6244	AlwN I	(1)	4734			
Blp I	GC`TNA,GC	6355	Apa I	(1)	2943			
Esp I	GC`TNA,GC	6355	ApaL I	(2)	4632	6321		
PaeR7 I	C`TCGA,G	6842	Apo I	(5)	175	233	2501	2629
Xho I	C`TCGA,G	6842			6789			
Number of enzymes = 47			Asc I	(1)	2450			
			Ase I	(5)	122	3854	4089	4148
The following enzymes do not cut in pMPN:					5383			
Aat II	Bbs I	Bbv II	BsaB I	BsmB I	Asp718	(2)	565	2431
Bst1107 I	Eco72 I	Fse I	Nru I	PflM I	Ava I	(10)	339	377
Pml I	PpuM I	Spe I	Xca I	Xcm I			3045	403
							3071	1939
							3109	
							5938	
							6842	
pMPN: sites sorted by name:					Ava II	(7)	355	1625
							5845	3094
							5571	6486

Avr II	(1)	915							6688					
BamH I	(1)	2443							2513					
Ban I	(10)	565	1108	1143	1900				BsrG I	(1)	2513			
		1975	2231	2422	2431				BssH II	(4)	1506	2450	3957	6770
		4062	5159						BssS I	(2)	1701	4491		
Ban II	(6)	347	1474	2146	2943				BstB I	(2)	1791	2534		
		3109	3381						BstE II	(1)	6206			
Bbe I	(2)	1112	2426						BstN I	(18)	291	477	629	684
Bbv I	(19)	25	337	340	398						701	1496	2844	2902
		532	1182	1224	1745						2974	3160	3738	3905
		2909	3008	4737	4740						4058	4346	4467	4480
		4946	5640	5878	5963				BstU I	(26)	1175	1476	1508	1994
		6007	6023	6395							2163	2208	2452	2477
Bcl I	(1)	6244									2521	3319	3425	3596
Bcn I	(17)	341	342	405	406						3756	3959	4165	4167
		1114	1274	2287	2765						4365	4946	5276	5960
		2914	3047	3048	3111						6233	6298	6361	6654
		3112	3951	4699	5395						6770	6772		
		5742							BstX I	(2)	1830	2950		
Bfa I	(20)	17	28	318	513				BstY I	(10)	1280	1526	2405	2443
		916	970	1980	2131						2495	4959	4970	5056
		2257	2319	2493	2540						5068	6527		
		2664	3132	3491	3502				Bsu36 I	(1)	2179			
		4813	5066	5401	6727				Cac8 I	(49)	333	384	391	467
Bgl I	(4)	504	868	5331	6678						642	661	714	733
Bgl II	(1)	2495									1003	1189	1408	1474
Blp I	(1)	6355									1480	1508	1512	1553
Bpm I	(2)	5281	6298								1557	1611	2132	2146
Bsa I	(3)	2275	2759	5272							2167	2330	2358	2452
BsaA I	(5)	1413	2547	3228	3286						2985	3061	3068	3119
		6803									3366	3463	3550	3704
BsaH I	(4)	1109	1811	2423	6100						3955	3959	4111	4140
BsaJ I	(39)	289	290	339	340						4249	4335	4372	4932
		403	476	502	526						5323	5956	6133	6238
		627	699	822	857						6418	6587	6693	6697
		866	915	1272	1541						6772			
		2042	2306	2475	2763									
		2911	2972	3045	3108				Cfr10 I	(13)	382	1428	1609	1972
		3109	3158	3159	3626						2196	2328	2419	3066
		3737	4057	4478	5731						3817	3841	5291	6642
		5754	5937	5968	6275						6695			
		6339	6478	6820					Cla I	(1)	2464			
BsaW I	(11)	352	1140	1897	1972				Csp6 I	(13)	52	566	1414	2022
		3096	3764	3776	4524						2432	2438	2514	2548
		4671	5502	6512							5692	5925	6138	6146
											6629			
BseR I	(1)	911							Dde I	(11)	573	875	1772	2179
Bsg I	(2)	2090	3868								2273	2324	3393	4593
BsiC I	(2)	1791	2534								5002	5168	6355	
BsiE I	(7)	1018	1893	3323	4234				Dpn I	(31)	429	1282	1360	1441
		4658	5581	6427							1450	1528	2407	2445
BsiHKA I	(5)	1222	1412	3381	4636						2497	2566	3023	3516
		6325									4886	4961	4972	4980
											5058	5070	5175	5516
BsiW I	(1)	51									5534	5580	6063	6246
Bsm I	(2)	2659	3463								6426	6436	6511	6529
BsmA I	(4)	959	2276	2758	5273						6757	6778	6816	
BsmF I	(15)	281	291	410	609						6757	6778	6816	
		681	745	1260	1792				DpnII	(31)	427	1280	1358	1439
		1921	2781	2864	3038						1448	1526	2405	2443
		3157	3167	6602							2495	2564	3021	3514
BsoF I	(67)	14	326	329	336						4884	4959	4970	4978
		387	454	521	863						5056	5068	5173	5514
		1018	1070	1081	1171						5532	5578	6061	6244
		1176	1213	1254	1341						6424	6434	6509	6527
		1344	1347	1583	1679						6755	6776	6814	
		1720	1734	1835	1890				Dra I	(6)	2268	2528	2560	2793
		1893	2111	2170	2185						5077	5096		
		2216	2898	2997	3064				Dra III	(3)	5755	6183	6803	
		3115	3122	3125	3387				Drd I	(4)	952	1136	3397	4426
		3506	3608	3639	3642				Dsa I	(8)	502	526	822	1541
		3757	3869	3916	4143						2475	5754	5968	6339
		4224	4242	4245	4363						505	1015	1189	1580
		4518	4661	4726	4729				Eae I	(11)	1607	1832	1890	3695
		4935	5263	5602	5629						4157	5599	6133	
		5724	5867	5952	5996						1015	1890		
		6012	6167	6234	6384				Eag I	(2)	1015	1890		
		6493	6573	6670					Ear I	(3)	1453	1663	4202	
Bsp120 I	(1)	2939							Eco47 III	(1)	2491			
Bsp1286 I	(1)	1412							Eco57 I	(5)	1254	1686	2145	4865
BspH I	(1)	5038									6191			
BspM I	(4)	996	1377	1827	6393				EcoN I	(3)	1983	2178	2934	
BspM II	(2)	3764	3776						EcoO109 I	(1)	2939			
Bsr I	(23)	801	1052	1253	2007				EcoR I	(1)	2501			
		2028	2436	2444	2816				EcoR II	(18)	289	475	627	682
		2926	3747	4119	4725						699	1494	2842	2900
		4738	4852	5258	5376						2972	3158	3736	3903
		5419	5686	5781	5846						4056	4344	4465	4478
		6584	6680	6702							5698	6275		
BsrB I	(8)	350	1722	1776	1889				EcoR V	(1)	3190			
		1895	3102	4010	4251				Ehe I	(2)	1110	2424		
BsrD I	(5)	1342	5272	5446	6395				Esp I	(1)	6355			
									Fnu4H I	(67)	14	326	329	336

		387	454	521	863			3765	3777	3818	3828
		1018	1070	1081	1171			3842	3950	4036	4525
		1176	1213	1254	1341			4672	4698	4888	5292
		1344	1347	1583	1679			5326	5393	5503	5740
		1720	1734	1835	1890			6513	6643	6696	
		1893	2111	2170	2185	Hph I	(10)	1288	3726	5055	5282
		2216	2898	2997	3064			5696	5754	6070	6217
		3115	3122	3125	3387			6303	6810		
		3506	3608	3639	3642	Kas I	(2)	1108	2422		
		3757	3869	3916	4143	Kpn I	(2)	569	2435		
		4224	4242	4245	4363	Mae I	(20)	17	28	318	513
		4518	4661	4726	4729			916	970	1980	2131
		4935	5263	5602	5629			2257	2319	2493	2540
		5724	5867	5952	5996			2664	3132	3491	3502
		6012	6167	6234	6384			4813	5066	5401	6727
		6493	6573	6670		Mae II	(20)	50	54	304	1225
Fok I	(19)	307	359	766	1433			1412	2087	2370	2546
		1458	2175	2762	3089			3146	3227	3285	3650
		3141	3643	3792	3924			3667	3884	5021	5437
		5177	5358	5645	5777			6126	6612	6802	6871
		5930	6174	6675		Mae III	(26)	46	248	1229	1535
Fsp I	(2)	1211	5433					2399	2415	2603	3281
Gdi II	(11)	506	1014	1016	1579			3341	3944	4674	4737
		1606	1831	1889	1891			4853	5136	5467	5525
		4158	5598	6132				5678	5743	5874	5961
Gsu I	(2)	5282	6297					6005	6200	6206	6308
Hae I	(10)	498	531	914	1191			6638	6876		
		3697	3733	4333	4344	Mbo I	(31)	427	1280	1358	1439
		4796	6765					1448	1526	2405	2443
Hae II	(13)	364	1112	2303	2426			2495	2564	3021	3514
		2493	3092	3555	3874			4884	4959	4970	4978
		4196	4566	6113	6543			5056	5068	5173	5514
		6692						5532	5578	6061	6244
Hae III	(30)	498	507	531	856			6424	6434	6509	6527
		862	871	914	1017			6755	6776	6814	
		1191	1582	1609	1834	Mbo II	(13)	231	933	1469	1679
		1892	2184	2289	2941			1761	3585	4190	4979
		3697	3733	4159	4333			5052	6402	6761	6764
		4344	4362	4796	5254			6797			
		5334	5601	6135	6169	Mlu I	(1)	2519			
		6699	6765			Mme I	(3)	4532	4716	6764	
Hga I	(9)	89	1818	2236	3292	Mnl I	(50)	103	258	318	446
		3455	4428	5006	5754			508	544	551	568
		6090						846	852	875	881
HgiA I	(5)	1222	1412	3381	4636			889	892	904	1024
		6325						1160	1517	1709	1948
HgiE II	(1)	4897						2037	2132	2174	2228
Hha I	(50)	363	520	1103	1111			2244	2873	3006	3134
		1175	1212	1478	1508			3378	3564	3591	3621
		1510	1738	1922	1994			3885	4167	4216	4426
		2165	2302	2397	2425			4499	4750	5150	5231
		2452	2454	2492	3091			5377	5583	5722	5946
		3427	3554	3797	3873			6043	6083	6491	6530
		3959	3961	4102	4167			6775	6850		
		4195	4228	4498	4565	Msc I	(2)	1191	3697		
		4665	4839	4948	5341	Mse I	(31)	22	57	122	138
		5434	5833	5883	5960			212	964	2267	2458
		6112	6300	6361	6388			2481	2485	2527	2559
		6542	6636	6656	6691			2785	2792	3269	3276
		6772	6774					3497	3710	3854	4089
HinC II	(3)	2459	2509	2840				4148	5024	5076	5081
Hind II	(3)	2459	2509	2840				5095	5148	5383	5422
HinD III	(2)	931	2469					6039	6555	6868	
Hinf I	(19)	937	1594	1728	1780	Msl I	(7)	1546	1828	1867	2948
		2203	2322	2536	2714			5463	5622	6318	
		2926	3312	3420	3681	Msp I	(47)	340	353	358	383
		4153	4218	4293	4689			404	1014	1091	1113
		5206	6077	6290				1141	1272	1362	1429
HinI I	(4)	1109	1811	2423	6100			1610	1898	1973	2197
HinP I	(50)	361	518	1101	1109			2285	2297	2329	2420
		1173	1210	1476	1506			2447	2763	2913	3046
		1508	1736	1920	1992			3067	3092	3097	3110
		2163	2300	2395	2423			3765	3777	3818	3828
		2450	2452	2490	3089			3842	3950	4036	4525
		3425	3552	3795	3871			4672	4698	4888	5292
		3957	3959	4100	4165			5326	5393	5503	5740
		4193	4226	4496	4563			6513	6643	6696	
		4663	4837	4946	5339	MspAl I	(10)	591	1215	2124	2477
		5432	5831	5881	5958			3863	4142	4660	4905
		6110	6298	6359	6386			5869	6492		
		6540	6634	6654	6689	Mun I	(1)	1965			
		6770	6772			Nae I	(5)	384	1611	2330	3068
Hpa I	(1)	2459						6697			
Hpa II	(47)	340	353	358	383	Nar I	(2)	1109	2423		
		404	1014	1091	1113	Nci I	(17)	340	341	404	405
		1141	1272	1362	1429			1113	1273	2286	2764
		1610	1898	1973	2197			2913	3046	3047	3110
		2285	2297	2329	2420			3111	3950	4698	5394
		2447	2763	2913	3046			5741			
		3067	3092	3097	3110	Nco I	(3)	526	822	1541	

Nde I	(1)	2552				Sfc I	(8)	2	467	1158	2981
Not I	(1)	1890				Sfi I	(2)	4583	4774	5452	6301
Nsi I	(3)	665	737	3463		Sma I	(4)	341	405	3047	3111
Nsp7524 I	(6)	84	659	731	1510	SnaB I	(1)	2547			
NspB II	(10)	3461	4318			Sph I	(4)	663	735	1514	3465
NspH I	(6)	88	663	735	1514	SpI I	(1)	51			
Pac I	(1)	2485				Srf I	(2)	405	3047		
PaeR7 I	(1)	6842				Ssp I	(2)	2789	3449		
Pal I	(30)	498	507	531	856	Stu I	(2)	498	914		
Ple I	(2)	2211	4697			Sty I	(8)	526	822	915	1541
Pme I	(1)	2528						2306	5731	6478	6820
Psp1406 I	(2)	2087	5437			Swa I	(1)	2560			
PspA I	(4)	339	403	3045	3109	Taq I	(22)	108	958	1222	1378
Pst I	(4)	6	471	1162	2985			1402	1438	1600	1791
Pvu I	(2)	5581	6427					2137	2279	2464	2508
Pvu II	(4)	591	1215	2124	4142			2534	4418	5715	5975
Rsa I	(13)	53	567	1415	2023			6075	6106	6118	6412
		2433	2439	2515	2549	Tfi I	(10)	937	1594	1728	2536
		5693	5926	6139	6147			2926	3420	3681	4153
		6630				Tsp45 I	(11)	46	1229	1535	2415
Rsr II	(3)	355	1625	3094				3281	3341	5467	5678
Sac I	(1)	3381				Tth111 I	(1)	1227	6206	6308	
Sac II	(1)	2478				Tth111 II	(9)	198	1545	2346	3376
Sal I	(1)	2507						4907	4916	4946	5963
Sap I	(3)	1453	1663	4202		Vsp I	(5)	122	3854	4089	4148
Sau3A I	(31)	427	1280	1358	1439			5383			
		1448	1526	2405	2443	Xba I	(1)	2539			
		2495	2564	3021	3514	Xho I	(1)	6842			
		4884	4959	4970	4978	Xho II	(10)	1280	1526	2405	2443
		5056	5068	5173	5514			2495	4959	4970	5056
		5532	5578	6061	6244			5068	6527		
		6424	6434	6509	6527	Xma I	(4)	339	403	3045	3109
		6755	6776	6814		Xma III	(2)	1015	1890		
Sau96 I	(13)	355	1625	2287	2939						
		2940	3094	5253	5332						
		5349	5571	5845	6486						
		6698									
Sca I	(1)	2439									
ScrF I	(35)	291	340	341	404						
		405	477	629	684						
		701	1113	1273	1496						
		2286	2764	2844	2902						
		2913	2974	3046	3047						
		3110	3111	3160	3738						
		3905	3950	4058	4346						
		4467	4480	4698	5394						
		5700	5741	6277							
Sec I	(39)	289	290	339	340						
		403	476	502	526						
		627	699	822	857						
		866	915	1272	1541						
		2042	2306	2475	2763						
		2911	2972	3045	3108						
		3109	3158	3159	3626						
		3737	4057	4478	5731						
		5754	5937	5968	6275						
SfaN I	(20)	6339	6478	6820							
		380	671	743	1068						
		1323	1407	1471	1539						
		1746	2156	2630	3068						
		3516	3571	3805	3903						
		4414	5466	5659	5951						

Site usage in pMPN:

Aat II	G,ACGT`C	-	Acc I	GT`MK,AC	1
Acc65 I	G`GTAC,C	2	Aci I	C`CG,C	86
Afe I	AGC GCT	1	Afl II	C`TTAA,G	1
Afl III	A`CRYG,T	2	Age I	A`CCGG,T	1
Aha II	GR`CG,YC	4	Ahd I	GACNN,N`NNGTC	1
Alu I	AG CT	31	Alw I	GGATC 8/9	17
AlwN I	CAG,NNN`CTG	1	Apa I	G,GGCC`C	1
ApaL I	G`TGCA,C	2	Apo I	R`AATT,Y	5
Asc I	GG`CGCG,CC	1	Asc I	AT`TA,AT	5
Asp718	G`GTAC,C	2	Ava I	C`YCGR,G	10
Ava II	G`GWC,C	7	Avr II	C`CTAG,G	1
BamH I	G`GATC,C	1	Ban I	G`GYRC,C	10
Ban II	G,RCY`C	6	Bbe I	G,GGCC`C	2
Bbs I	GAAGAC 8/12	-	Bbv I	GCAGC 13/17	19
Bbv II	GAAGAC 7/11	-	Bcl I	T`GATC,A	1
Bcn I	CC,S`GG	17	Bfa I	C`TA,G	20
Bgl I	CCN,NNN`GGCC	4	Bgl II	A`GATC,T	1
Blp I	GC`TNA,GC	1	Bpm I	CTGGAG 22/20	2
Bsa I	GGTCTC 7/11	3	BsaA I	YAC GTR	5
BsaB I	GATNN NNATC	-	BsaH I	GR`CG,YC	4
BsaJ I	C`CNNG,G	39	BsaW I	W`CCGG,W	11
BseR I	GAGGAG 16/14	1	Bsg I	GTGAG 22/20	2
BsiC I	TT`CG,AA	2	Bsie I	CG,RY`CG	7
BsiHKA I	G,WGCW`C	5	BsiW I	C`GTAC,G	1
Bsm I	GAATG,C 7	2	BsmA I	GTCTC`/9	4
BsmB I	CGTCTC 7/11	-	BsmF I	GGGAC 15/19	15
BsoF I	GC`N,GC	67	Bsp120 I	G`GGCC,C	1
Bsp1286 I	G, DGCH`C	1	BspH I	T`CATG,A	1
BspM I	ACCTGC 10/14	4	BspM II	T`CCGG,A	2
Bsr I	ACT,GG`	23	BsrB I	GAG CGG	8
BsrD I	GCAATG, 8	5	BsrG I	T`GTAC,A	1
BssH II	G`CGCC,C	4	BssS I	C`TGCT,G	2
Bst1107 I	GTA TAC	-	BstB I	TT`CG,AA	2
BstE II	G`GTNAC,C	1	BstN I	CC`W,GG	18
BstU I	CG CG	26	BstX I	CCAN,NNNN`NTGG	2
BstY I	R`GATC,Y	10	Bsu36 I	CC`TNA,GG	1
Cac8 I	GCN NGC	49	Cfr10 I	R`CCGG,Y	13
Cla I	AT`CG,AT	1	Csp6 I	G`TA,C	13
Dde I	C`TNA,G	11	Dpn I	GA TC	31
DpnII	`GATC,	31	Dra I	TTT AAA	6
Dra III	CAC,NNN`GTG	3	Drd I	GACNN,MN`NNGTC	4
Dsa I	C`CRYG,G	8	Eae I	Y`GGCC,R	11
Eag I	C`GGCC,G	2	Ear I	CTCTTC 7/10	3
Eco47 III	AGC GCT	1	Eco57 I	CTGAAG 21/19	5
Eco72 I	CAC GTG	-	EcoN I	CCTNN`N,NNAGG	3
EcoO109 I	RG`GNC,CY	1	EcoR I	G`AATT,C	1
EcoR II	`CCWGG,	18	EcoR V	GAT ATC	1
Ehe I	GGC GCC	2	Esp I	GC`TNA,GC	1
Fnu4H I	GC`N,GC	67	Fok I	GGATG 14/18	19
Fse I	GG,CCGG`CC	-	Fsp I	TGC GCA	2
Gdi II	`YGGC,CG	11	Gsu I	CTGGAG 21/19	2
Hae I	WGG CCW	10	Hae II	R,GGCC`Y	13
Hae III	GG CC	30	Hga I	GACGC 9/14	9
HgiA I	G,WGCW`C	5	HgiE II	ACCNNNNNNGGT -1/131	3
Hha I	G,CG`C	50	Hinc II	GTY RAC	3
Hind II	GTY RAC	3	Hind III	A`AGCT,T	2
Hinf I	G`ANT,C	19	HinI I	GR`CG,YC	4
HinP I	G`CG,C	50	Hpa I	GTT AAC	1

Hpa II	C`CG,G	47	Hph I	GGTGA 12/11	10	PspA I	C`CCGG,G	4	Pst I	C,TGCA`G	4
Kas I	G`GCGC,C	2	Kpn I	G,GTAC`C	2	Pvu I	CG,AT`CG	2	Pvu II	CAG CTG	4
Mae I	C`TA,G	20	Mae II	A`CG,T	20	Rsa I	GT AC	13	Rsr II	CG`GWC,CG	3
Mae III	`GTNAC,	26	Mbo I	`GATC,	31	Sac I	G,AGCT`C	1	Sac II	CC,GC`GG	1
Mbo II	GAAGA 12/11	13	Mlu I	A`CGCG,T	1	Sal I	G`TCGA,C	1	Sap I	GCTCTTC 8/11	3
Mme I	TCCRAC 25/23	3	Mnl I	CCTC 10/10	50	Sau3A I	`GATC,	31	Sau96 I	G`GNC,C	13
Msc I	TGG CCA	2	Mse I	T`TA,A	31	Sca I	AGT ACT	1	ScrF I	CC`N,GG	35
Msl I	CAYNN NNRTG	7	Msp I	C`CG,G	47	Sec I	C`CNNG,G	39	SfaN I	GCATC 9/13	20
MspA1 I	CMG CKG	10	Mun I	C`AATT,G	1	Sfc I	C`TRYA,G	8	Sfi I	GGCCN,NNN`NGGCC	2
Nae I	GCC GGC	5	Nar I	GG`CG,CC	2	Sma I	CCC GGG	4	SnaB I	TAC GTA	1
Nci I	CC`S,GG	17	Nco I	C`CATG,G	3	Spe I	A`CTAG,T	-	Sph I	G,CATG`C	4
Nde I	CA`TA,TG	1	NgoM I	G`CCGG,C	5	Spl I	C`GTAC,G	1	Srf I	GCCC GGGC	2
Nhe I	G`CTAG,C	1	Nla III	,CATG`	28	Ssp I	AAT ATT	2	Stu I	AGG CCT	2
Nla IV	GGN NCC	25	Not I	GC`GGCC,GC	1	Sty I	C`CWWG,G	8	Swa I	ATTT AAAT	1
Nru I	TCG CGA	-	Nsi I	A,TGCA`T	3	Taq I	T`CG,A	22	Tfi I	G`AWT,C	10
Nsp7524 I	R`CATG,Y	6	NspB II	CMG CKG	10	Tsp45 I	`GTSAC,	11	Tth111 I	GACN`N,NGTC	1
NspH I	R,CATG`Y	6	Pac I	TTA,AT`TAA	1	Tth111 II	CAARCA 16/14	9	Vsp I	AT`TA,AT	5
Paer7 I	C`TCGA,G	1	Pal I	GG CC	30	Xba I	T`CTAG,A	1	Xca I	GTA TAC	-
Pf1M I	CCAN,NNN`NTGG	-	Ple I	GAGTC 9/10	2	Xcm I	CCANNNN,N`NNNNTGG-	-	Xho I	C`TCGA,G	1
Pme I	CTTT AAAC	1	Pml I	CAC GTG	-	Xho II	R`GATC,Y	10	Xma I	C`CCGG,G	4
PpuM I	RG`GWC,CY	-	Psp1406 I	AA`CG,TT	2	Xma III	C`GGCC,G	2	Xmn I	GAANN NNTTC	-