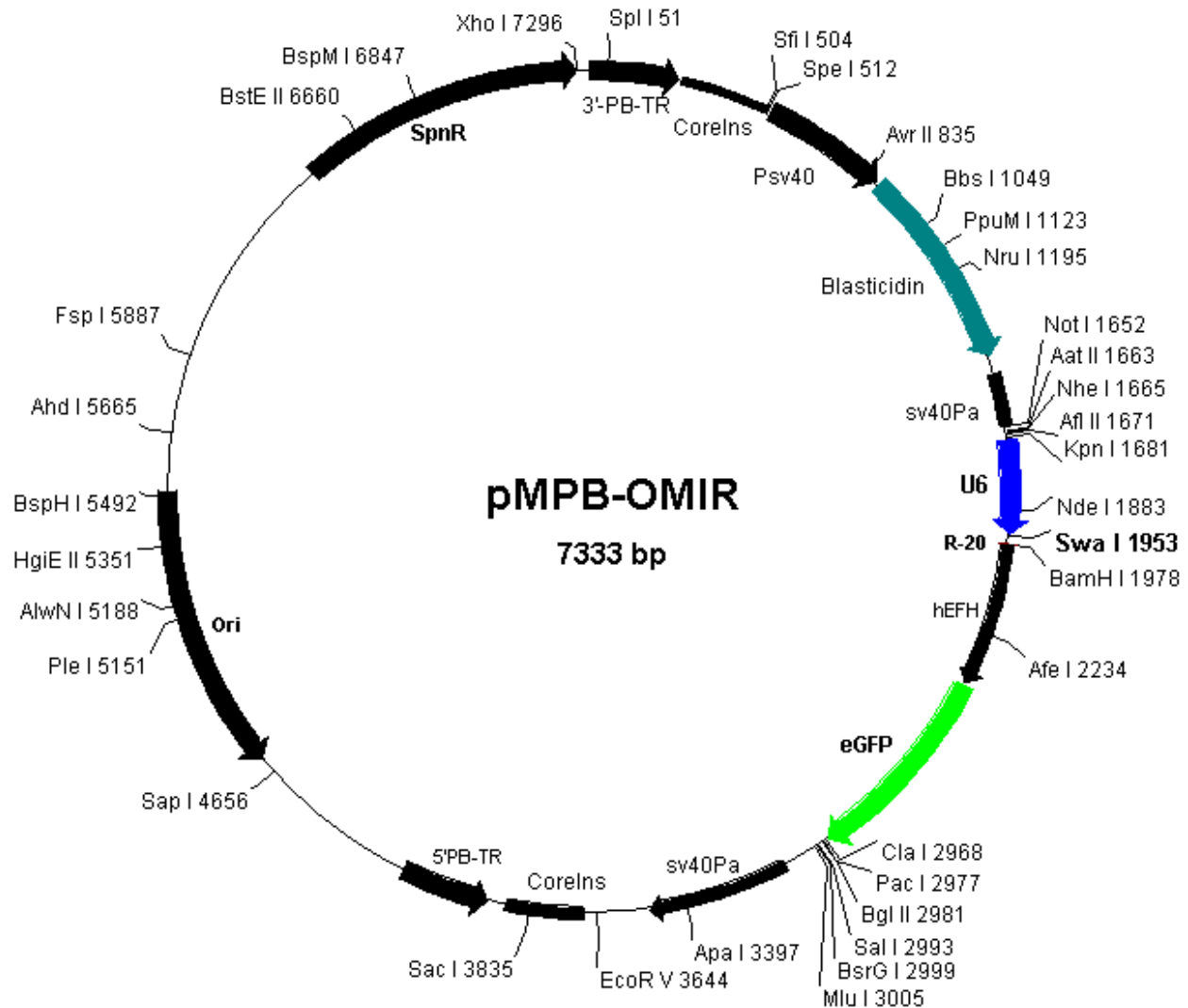


**Vector:** pMPB-OMIR (modified PiggyBac vector for one-step mature miRNA expression)

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

**Creator(s):** Xian Chen, Molecular Oncology Laboratory of The University of Chicago

**Date of Construction:** June, 2013



**Forward (5p) Oligo:**

5' -tgtggaaggaaggaATTTxxxxxxx-5p ttttttaaggtcgggcaggaagagg-3'

**Reverse (3p) Oligo:**

5' -atcttgagggaaggaCGAAACACCyyyyyyyy-3p ttttttAAATCGCCACATAGGTTTCGT-3'

**3p Reverse-Complement**

5' -ACGAACCTATGTGGCGATTTaaaaap3-yyyyyyyyGGTGTTCGtcctttccacaagat-3'

# pMPB-OMIR Vector Sequence

(Spectinomycin or Blastisin-resistant)

CTGCAGAACACGCAGCTAGATTAACTCTAGAAAAGATAATCATATTGTGACGTACGTTAAAAGATAATCATGCGTAAAATTGACGCATG  
TGTTTTATCGGTCTGTATATCGAGGTTTATTTATTAATTTGAATAGATATTAAGTTTTATTATATTTACTTACATACTAATAATA  
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CCTCTGAACGCTTCTCGCTGCTCTTTGAGCCTGACACACCTGGGGGGATACGGGGAAAAGGCCTCCACGGCCAGACTAGTAAATGTG  
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 GACCAAAAATCCCTTAACGTGAGTTA

**Unique enzymes in pMPB-OMIR:**

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
Bbv II	GAAGAC 7/11	1048
Bbs I	GAAGAC 8/12	1049
PpuM I	RG`GWC,CY	1123
Nru I	TCG CGA	1195
Not I	GC`GGCC,GC	1652
Aat II	G,ACGT`C	1663
Nhe I	G`CTAG,C	1665
Afl II	C`TTAA,G	1671
Acc65 I	G`GTAC,C	1677
Asp718	G`GTAC,C	1677
Kpn I	G,GTAC`C	1681
Nde I	CA`TA,TG	1883
Swa I	ATTT AAAT	1953
BamH I	G`GATC,C	1978
Mun I	C`AATT,G	2066
Afe I	AGC GCT	2234
Eco47 III	AGC GCT	2234
Bsp1286 I	G,DGCH`C	2860
Cla I	AT`CG,AT	2968
Pac I	TTA,AT`TAA	2977
Bgl II	A`GATC,T	2981
Sal I	G`TCGA,C	2993
Acc I	GT`MK,AC	2994
BsrG I	T`GTAC,A	2999
Mlu I	A`CGCG,T	3005
Bsp120 I	G`GGCC,C	3393
Apa I	G,GGCC`C	3397
BstX I	CCAN,NNNN`NTGG	3404
EcoR V	GAT ATC	3644
Sac I	G,AGCT`C	3835
Sap I	GCTCTTC 8/11	4656
Ple I	GAGTC 9/10	5151
AlwN I	CAG,NNN`CTG	5188
HgiE II	ACCNNNNNNGGT -1/135351	
BspH I	T`CATG,A	5492
Ahd I	GACNN,N`NNGTC	5665

Fsp I	TGC GCA	5887
BstE II	G`GTNAC,C	6660
BspM I	ACCTGC 10/14	6847
Paer7 I	C`TCGA,G	7296
Xho I	C`TCGA,G	7296
Number of enzymes = 46		

The following enzymes do not cut in pMPB-OMIR:

Asc I	Bbe I	BsiC I	BsmB I	
Bst1107 I				
BstB I	Bsu36 I	EcoR I	Ehe I	Fse
I				
HinD III	Hpa I	Kas I	Nar I	PflM
I				
Pme I	Sac II	Sca I	SnaB I	
Tth111 I				

pMPB-OMIR: sites sorted by name:

Aat II	(1)	1663			
Acc I	(1)	2994			
Acc65 I	(1)	1677			
Aci I	(77)	315	336	348	370
		393	683	695	704
		716	726	737	783
		1083	1165	1232	1416
		1419	1485	1651	1655
		2095	2132	2212	2469
		2510	2577	2616	2754
		2867	2927	2930	3511
		3534	3556	3568	3589
		3773	3806	3840	4048
		4061	4210	4317	4322
		4370	4407	4462	4565
		4621	4631	4655	4698
		4705	4726	4817	4845
		4972	4991	5112	5222
		5357	5366	5728	5819
		6010	6056	6323	6343
		6511	6608	6620	6687
		6750	6946	6949	7027
		7074			

Afe I	(1)	2234				BsaW I	(12)	352	1981	1998	2073
Afl II	(1)	1671						2238	3550	4218	4230
Afl III	(4)	894	1390	3005	4772			4978	5125	5956	6966
Age I	(2)	2073	2238			BseR I	(3)	831	1391	2281	
Aha II	(3)	1461	1660	6554		Bsg I	(6)	1151	2191	2379	2476
Ahd I	(1)	5665						2800	4322		
Alu I	(35)	16	799	853	863	BsiE I	(10)	1083	1199	1655	1994
		1066	1171	1535	2225			2243	3777	4688	5112
		2271	2304	2376	2409			6035	6881		
		2625	2673	2784	2958	BsiHKA I	(4)	2860	3835	5090	6779
		3199	3833	3959	4002	BsiW I	(1)	51			
		4437	4532	4596	4714	Bsm I	(3)	1600	3113	3917	
		4940	5030	5076	5333	BsmA I	(3)	982	3212	5727	
		5854	5954	6017	6264	BsmF I	(15)	281	291	410	529
		6694	6808	7180				601	665	1136	1472
Alw I	(20)	434	888	1278	1469			2022	3235	3318	3492
		1496	1974	1985	1991			3611	3621	7056	
		2746	2943	3471	3975	BsoF I	(66)	14	326	329	336
		5334	5420	5420	5517			387	454	783	1064
		5518	5982	6959	6988			1083	1157	1160	1163
AlwN I	(1)	5188						1166	1169	1333	1419
Apa I	(1)	3397						1533	1652	1655	2212
ApaL I	(2)	5086	6775					2410	2469	2491	2775
Apo I	(6)	175	233	1570	1948			2782	2833	2836	2930
		3083	7243					3352	3451	3518	3569
Ase I	(7)	122	906	1775	4308			3576	3579	3841	3960
		4543	4602	5837				4062	4093	4096	4211
Asp718	(1)	1677						4323	4370	4597	4678
Ava I	(11)	339	377	403	856			4696	4699	4817	4972
		2040	2142	3499	3525			5115	5180	5183	5389
		3563	6392	7296				5717	6056	6083	6178
Ava II	(8)	355	1123	2907	3548			6321	6406	6450	6466
		5803	6025	6299	6940			6621	6688	6838	6947
Avr II	(1)	835						7027	7124		
BamH I	(1)	1978				Bsp120 I	(1)	3393			
Ban I	(7)	1238	1677	2001	2076	Bsp1286 I	(1)	2860			
		2286	4516	5613		BspH I	(1)	5492			
Ban II	(5)	347	1228	3397	3563	BspM I	(1)	6847			
		3835				BspM II	(3)	1981	4218	4230	
Bbs I	(1)	1049				Bsr I	(23)	721	1097	1121	1682
Bbv I	(21)	25	337	340	398			2108	2129	2863	3270
		1075	1180	1544	2502			3380	4201	4573	5179
		2786	2793	3363	3462			5192	5306	5712	5830
		5191	5194	5400	6094			5873	6140	6235	6300
		6332	6417	6461	6477			7038	7134	7156	
		6849				BsrB I	(4)	350	3556	4464	4705
Bbv II	(1)	1048				BsrD I	(4)	5726	5900	6849	7142
Bcl I	(2)	886	6698			BsrG I	(1)	2999			
Bcn I	(19)	341	342	405	406	BssH II	(2)	4411	7224		
		858	859	1458	2281	BssS I	(3)	1138	2431	4945	
		2935	3219	3368	3501	BstE II	(1)	6660			
		3502	3565	3566	4405	BstN I	(23)	291	477	549	604
		5153	5849	6196				621	1268	2296	2421
Bfa I	(19)	17	28	318	513			2533	2608	2662	3298
		836	1073	1605	1666			3356	3428	3614	4192
		2081	2230	2985	3118			4359	4512	4800	4921
		3586	3945	3956	5267			4934	6154	6731	
		5520	5855	7181		BstU I	(24)	1195	1485	1657	2095
Bgl I	(3)	504	5785	7132				2579	2897	3007	3773
Bgl II	(1)	2981						3879	4050	4210	4413
Blp I	(2)	1359	6809					4619	4621	4819	5400
Bpm I	(6)	1463	1520	2695	2935			5730	6414	6687	6752
		5735	6752					6815	7108	7224	7226
Bsa I	(2)	3213	5726			BstX I	(1)	3404			
BsaA I	(6)	895	1393	1814	3682	BstY I	(11)	881	1489	1978	1984
		3740	7257					2750	2981	5413	5424
BsaB I	(2)	1262	1983					5510	5522	6981	
BsaH I	(3)	1461	1660	6554		Cac8 I	(42)	333	384	391	467
BsaJ I	(43)	289	290	339	340			562	581	634	653
		403	476	502	547			1059	1173	1465	1667
		619	742	777	835			2374	2407	2455	2779
		856	962	1267	1374			2786	3439	3515	3522
		2143	2249	2279	2419			3573	3820	3917	4004
		2582	2606	2661	3217			4158	4409	4413	4565
		3365	3426	3499	3562			4594	4703	4789	4826
		3563	3612	3613	4080			5386	5777	6410	6587
		4191	4511	4932	6185			6692	6872	7041	7147
		6208	6391	6422	6729			7151	7226		
		6793	6932	7274		Cfr10 I	(11)	382	1463	2073	2238

		2401	3520	4271	4295			1651	1653	2323	2710
		5745	7096	7149				4612	6052	6586	
Cla I	(1)	2968				Gsu I	(6)	1464	1519	2694	2934
Csp6 I	(12)	52	1678	1804	2123			5736	6751		
		2679	2961	3000	6146	Hae I	(10)	498	834	967	2989
		6379	6592	6600	7083			4151	4187	4787	4798
Dde I	(9)	795	1359	2854	2872			5250	7219		
		3847	5047	5456	5622	Hae II	(10)	364	2236	3546	4009
		6809						4328	4650	5020	6567
Dpn I	(37)	429	883	888	1198			6997	7146		
		1259	1273	1475	1491	Hae III	(30)	498	507	776	782
		1980	1986	1993	2752			834	967	1082	1373
		2900	2938	2983	3020			1654	1709	2324	2424
		3477	3970	5340	5415			2713	2825	2989	3395
		5426	5434	5512	5524			4151	4187	4613	4787
		5629	5970	5988	6034			4798	4816	5250	5708
		6517	6700	6880	6890			5788	6055	6589	6623
		6965	6983	7211	7232			7153	7219		
DpnII	(37)	427	881	886	1196	Hga I	(9)	89	1042	1468	3746
		1257	1271	1473	1489			3909	4882	5460	6208
		1978	1984	1991	2750			6544			
		2898	2936	2981	3018	HgiA I	(4)	2860	3835	5090	6779
		3475	3968	5338	5413	HgiE II	(1)	5351			
		5424	5432	5510	5522	Hha I	(40)	363	1063	1485	2023
		5627	5968	5986	6032			2095	2235	2540	2581
		6515	6698	6878	6888			2897	3545	3881	4008
		6963	6981	7209	7230			4251	4327	4413	4415
		7268						4556	4621	4649	4682
Dra I	(7)	1856	1869	1953	3014			4952	5019	5119	5293
		3247	5531	5550				5402	5795	5888	6287
Dra III	(4)	1369	6209	6637	7257			6337	6414	6566	6754
Drd I	(3)	1051	3851	4880				6815	6842	6996	7090
Dsa I	(7)	502	742	962	2249			7110	7145	7226	7228
		6208	6422	6793		HinC II	(3)	900	2995	3294	
Eae I	(11)	505	965	1080	1371	Hind II	(3)	900	2995	3294	
		1652	2322	2711	4149	Hinf I	(17)	988	1320	1409	1446
		4611	6053	6587				1722	3168	3380	3766
Eag I	(2)	1080	1652					3874	4135	4607	4672
Ear I	(2)	1697	4656					4747	5143	5660	6531
Eco47 III	(1)	2234						6744			
Eco57 I	(6)	1060	2403	2449	2646	HinI I	(3)	1461	1660	6554	
		5319	6645			HinP I	(40)	361	1061	1483	2021
Eco72 I	(2)	895	1393					2093	2233	2538	2579
EcoN I	(2)	2084	3388					2895	3543	3879	4006
EcoO109 I	(3)	1123	1707	3393				4249	4325	4411	4413
EcoR II	(23)	289	475	547	602			4554	4619	4647	4680
		619	1266	2294	2419			4950	5017	5117	5291
		2531	2606	2660	3296			5400	5793	5886	6285
		3354	3426	3612	4190			6335	6412	6564	6752
		4357	4510	4798	4919			6813	6840	6994	7088
		4932	6152	6729				7108	7143	7224	7226
EcoR V	(1)	3644				Hpa II	(42)	340	353	358	383
Esp I	(2)	1359	6809					404	857	1456	1464
Fnu4H I	(66)	14	326	329	336			1982	1999	2074	2239
		387	454	783	1064			2279	2342	2402	2933
		1083	1157	1160	1163			3217	3367	3500	3521
		1166	1169	1333	1419			3546	3551	3564	4219
		1533	1652	1655	2212			4231	4272	4282	4296
		2410	2469	2491	2775			4404	4490	4979	5126
		2782	2833	2836	2930			5152	5342	5746	5780
		3352	3451	3518	3569			5847	5957	6194	6967
		3576	3579	3841	3960			7097	7150		
		4062	4093	4096	4211	Hph I	(15)	959	2264	2269	2597
		4323	4370	4597	4678			2621	2750	4180	5509
		4696	4699	4817	4972			5736	6150	6208	6524
		5115	5180	5183	5389			6671	6757	7264	
		5717	6056	6083	6178	Kpn I	(1)	1681			
		6321	6406	6450	6466	Mae I	(19)	17	28	318	513
		6621	6688	6838	6947			836	1073	1605	1666
		7027	7124					2081	2230	2985	3118
Fok I	(21)	307	359	686	1015			3586	3945	3956	5267
		1250	1483	2278	2644			5520	5855	7181	
		3216	3543	3595	4097	Mae II	(24)	50	54	304	894
		4246	4378	5631	5812			1392	1660	1813	1818
		6099	6231	6384	6628			2188	2315	2528	2699
		7129						3600	3681	3739	4104
Fsp I	(1)	5887						4121	4338	5475	5891
Gdi II	(11)	506	1079	1081	1370	Mae III	(27)	6580	7066	7256	7325
								46	248	1544	1814

		1893	2433	2922	3057		4776	5496	5987	5997
		3735	3795	4398	5128		6075	6111	6354	7310
		5191	5307	5590	5921	Nla IV (23)	346	553	625	1124
		5979	6132	6197	6328		1240	1679	1980	2003
		6415	6459	6654	6660		2078	2130	2288	2826
Mbo I (37)		6762	7092	7330			3395	3560	4518	4804
		427	881	886	1196		4843	5615	5709	5750
		1257	1271	1473	1489		5961	6606	6971	
		1978	1984	1991	2750	Not I (1)	1652			
		2898	2936	2981	3018	Nru I (1)	1195			
		3475	3968	5338	5413	Nsi I (3)	585	657	3917	
		5424	5432	5510	5522	Nsp7524 I (5)	84	579	651	3915
		5627	5968	5986	6032		4772			
		6515	6698	6878	6888	NspB II (8)	1171	2225	4317	4596
		6963	6981	7209	7230		5114	5359	6323	6946
		7268				NspH I (5)	88	583	655	3919
Mbo II (18)		231	996	1053	1081		4776			
		1499	1713	2494	2539	Pac I (1)	2977			
		2542	2735	4039	4644	Paer7 I (1)	7296			
		5433	5506	6856	7215	Pal I (30)	498	507	776	782
		7218	7251				834	967	1082	1373
Mlu I (1)		3005					1654	1709	2324	2424
Mme I (3)		4986	5170	7218			2713	2825	2989	3395
Mnl I (54)		103	258	318	446		4151	4187	4613	4787
		508	766	772	795		4798	4816	5250	5708
		801	809	812	824		5788	6055	6589	6623
		944	1005	1346	1347		7153	7219		
		1369	1486	1698	2049	Ple I (1)	5151			
		2138	2259	2340	2346	Pml I (2)	895	1393		
		2439	2577	2589	2640	PpuM I (1)	1123			
		2760	3327	3460	3588	Psp1406 I (2)	2188	5891		
		3832	4018	4045	4075	EspA I (5)	339	403	856	3499
		4339	4621	4670	4880		3563			
		4953	5204	5604	5685	Pst I (3)	6	471	3439	
		5831	6037	6176	6400	Pvu I (4)	1199	1994	6035	6881
		6497	6537	6945	6984	Pvu II (3)	1171	2225	4596	
		7229	7304			Rsa I (12)	53	1679	1805	2124
Msc I (2)		967	4151				2680	2962	3001	6147
Mse I (33)		22	57	122	138		6380	6593	6601	7084
		212	906	1672	1775	Rsr II (2)	355	3548		
		1855	1868	1952	2973	Sac I (1)	3835			
		2977	3013	3239	3246	Sal I (1)	2993			
		3723	3730	3951	4164	Sap I (1)	4656			
		4308	4543	4602	5478	Sau3A I (37)	427	881	886	1196
		5530	5535	5549	5602		1257	1271	1473	1489
		5837	5876	6493	7009		1978	1984	1991	2750
		7322					2898	2936	2981	3018
Msl I (5)		2737	3402	5917	6076		3475	3968	5338	5413
		6772					5424	5432	5510	5522
Msp I (42)		340	353	358	383		5627	5968	5986	6032
		404	857	1456	1464		6515	6698	6878	6888
		1982	1999	2074	2239		6963	6981	7209	7230
		2279	2342	2402	2933		7268			
		3217	3367	3500	3521	Sau96 I (16)	355	1123	1707	2423
		3546	3551	3564	4219		2824	2907	3393	3394
		4231	4272	4282	4296		3548	5707	5786	5803
		4404	4490	4979	5126		6025	6299	6940	7152
		5152	5342	5746	5780	ScrF I (42)	291	340	341	404
		5847	5957	6194	6967		405	477	549	604
		7097	7150				621	857	858	1268
MspA1 I (8)		1171	2225	4317	4596		1457	2280	2296	2421
		5114	5359	6323	6946		2533	2608	2662	2934
Mun I (1)		2066					3218	3298	3356	3367
Nae I (4)		384	1465	3522	7151		3428	3500	3501	3564
Nci I (19)		340	341	404	405		3565	3614	4192	4359
		857	858	1457	2280		4404	4512	4800	4921
		2934	3218	3367	3500		4934	5152	5848	6154
		3501	3564	3565	4404		6195	6731		
		5152	5848	6195		Sec I (43)	289	290	339	340
Nco I (3)		742	962	2249			403	476	502	547
Nde I (1)		1883					619	742	777	835
NgoM I (4)		382	1463	3520	7149		856	962	1267	1374
Nhe I (1)		1665					2143	2249	2279	2419
Nla III (32)		71	88	583	655		2582	2606	2661	3217
		746	966	1498	1646		3365	3426	3499	3562
		1722	2253	2487	2517		3563	3612	3613	4080
		2712	2907	2952	3159		4191	4511	4932	6185
		3696	3756	3919	4068		6208	6391	6422	6729
		4132	4156	4386	4430		6793	6932	7274	

SfaN I	(22)	380	591	663	1036	BsaJ I	C`CNNG,G	43	BsaW I	W`CCGG,W	12
		1093	1225	1271	1571	BseR I	GAGGAG 16/14	3	Bsg I	GTGCAG 22/20	6
		2350	2626	2641	2740	BsiC I	TT`CG,AA	-	BsiE I	CG,RY`CG	10
		3084	3522	3970	4025	BsiHKA I	G,WGCW`C	4	BsiW I	C`GTAC,G	1
		4259	4357	4868	5920	Bsm I	GAATG,C 7	3	BsmA I	GTCTC`/9	3
		6113	6405			BsmB I	CGTCTC 7/11	-	BsmF I	GGGAC 15/19	15
Sfc I	(8)	2	467	1047	3435	BsoF I	GC`N,GC	66	Bsp120 I	G`GGCC,C	1
		5037	5228	5906	6755	Bsp1286 I	G,DGCH`C	1	BspH I	T`CATG,A	1
Sfi I	(1)	504				BspM I	ACCTGC 10/14	1	BspM II	T`CCGG,A	3
Sma I	(5)	341	405	858	3501	Bsr I	ACT,GG`	23	BsrB I	GAG CGG	4
		3565				BsrD I	GCAATG, 8	4	BsrG I	T`GTAC,A	1
Spe I	(1)	512				BssH II	G`CGCG,C	2	Bsss I	C`TCGT,G	3
Sph I	(3)	583	655	3919		Bst1107 I	GTA TAC	-	BstB I	TT`CG,AA	-
Spl I	(1)	51				BstE II	G`GTNAC,C	1	BstN I	CC`W,GG	23
Srf I	(2)	405	3501			BstU I	CG CG	24	BstX I	CCAN,NNNN`NTGG	1
Ssp I	(2)	3243	3903			BstY I	R`GATC,Y	11	Bsu36 I	CC`TNA,GG	-
Stu I	(3)	498	834	2989		Cac8 I	GCN NGC	42	Cfr10 I	R`CCGG,Y	11
Sty I	(7)	742	835	962	2249	Cla I	AT`CG,AT	1	Csp6 I	G`TA,C	12
		6185	6932	7274		Dde I	C`TNA,G	9	Dpn I	GA TC	37
Swa I	(1)	1953				DpnII	`GATC,	37	Dra I	TTT AAA	7
Taq I	(20)	108	1256	1407	1910	Dra III	CAC,NNN`GTG	4	Drd I	GACNN,NN`NNGTC	3
		2300	2594	2621	2636	Dsa I	C`CRYG,G	7	Eae I	Y`GGCC,R	11
		2765	2968	2994	4872	Eag I	C`GGCC,G	2	Ear I	CTCTTC 7/10	2
		6169	6429	6529	6560	Eco47 III	AGC GTG	1	Eco57 I	CTGAAG 21/19	6
		6572	6866	6881	7297	Eco72 I	CAC GTG	2	EcoN I	CCTNN`N,NNAGG	2
Tfi I	(11)	988	1320	1409	1446	EcoO109 I	RG`GNC,CY	3	EcoR I	G`AATT,C	-
		1722	3380	3874	4135	EcoR II	`CCWGG,	23	EcoR V	GAT ATC	1
		4607	4747	6744		Ehe I	GGC GCC	-	Esp I	GC`TNA,GC	2
Tsp45 I	(11)	46	1814	2433	2922	Fnu4H I	GC`N,GC	66	Fok I	GGATG 14/18	21
		3735	3795	5921	6132	Fse I	GG,CCGG`CC	-	Fsp I	TGC GCA	1
		6197	6660	6762		Gdi II	`YGGC,CG	11	Gsu I	CTGGAG 21/19	6
Tth111 II	(8)	198	2733	3830	5361	Hae I	WGG CCW	10	Hae II	R,GCGC`Y	10
		5370	5400	6417	6424	Hae III	GG CC	30	Hga I	GACGC 9/14	9
Vsp I	(7)	122	906	1775	4308	HgiA I	G,WGCW`C	4	HgiE II	ACCNNNNNNGGT -1/131	-
		4543	4602	5837		Hha I	G,CG`C	40	Hinc II	GTY RAC	3
Xho I	(1)	7296				Hind II	GTY RAC	3	Hind III	A`AGCT,T	-
Xho II	(11)	881	1489	1978	1984	Hinf I	G`ANT,C	17	HinI I	GR`CG,YC	3
		2750	2981	5413	5424	HinP I	G`CG,C	40	Hpa I	GTT AAC	-
		5510	5522	6981		Hpa II	C`CG,G	42	Hph I	HGTGA 12/11	15
Xma I	(5)	339	403	856	3499	Kas I	G`GGCC,C	-	Kpn I	G,GTAC`C	1
		3563				Mae I	C`TA,G	19	Mae II	A`CG,T	24
Xma III	(2)	1080	1652			Mae III	`GTNAC,	27	Mbo I	`GATC,	37
						Mbo II	GAAGA 12/11	18	Mlu I	A`CGCC,T	1
						Mme I	TCCRAC 25/23	3	Mnl I	CCTC 10/10	54
						Msc I	TGG CCA	2	Mse I	T`TA,A	33
						Msl I	CAYNN NNRTG	5	Msp I	C`CG,G	42
						MspAl I	CMG CKG	8	Mun I	C`AATT,G	1
						Nae I	GCC GGC	4	Nar I	GG`CG,CC	-
						Nci I	CC`S,GG	19	Nco I	C`CATG,G	3
						Nde I	CA`TA,TG	1	NgoM I	G`CCGG,C	4
						Nhe I	G`CTAG,C	1	Nla III	,CATG`	32
						Nla IV	GCN NCC	23	Not I	GC`GGCC,GC	1
						Nru I	TCG CGA	1	Nsi I	A,TGCA`T	3
						Nsp7524 I	R`CATG,Y	5	NspB II	CMG CKG	8
						NspH I	R,CATG`Y	5	Pac I	TTA,AT`TAA	1
						PaeR7 I	C`TCGA,G	1	Pal I	GG CC	30
						Pf1M 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	2
						PspA I	C`CCGG,G	5	Pst I	C,TGCA`G	3
						Pvu I	CG,AT`CG	4	Pvu II	CAG CTG	3
						Rsa I	GT AC	12	Rsr II	CG`GWC,CG	2
						Sac I	G,AGCT`C	1	Sac II	CC,GC`GG	-
						Sal I	G`TCGA,C	1	Sap I	GCTCTTC 8/11	1
						Sau3A I	`GATC,	37	Sau96 I	G`GNC,C	16
						Sca I	AGT ACT	-	ScrF I	CC`N,GG	42
						Sec I	C`CNNG,G	43	SfaN I	GCATC 9/13	22
						Sfc I	C`TRYA,G	8	Sfi I	GGCCN,NNN`NGGCC	1
						Sma I	CCC GGG	5	SnaB I	TAC GTA	-
						Spe I	A`CTAG,T	1	Sph I	G,CATG`C	3
						Spl I	C`GTAC,G	1	Srf I	GCCC GGGC	2
						Ssp I	AAT ATT	2	Stu I	AGG CCT	3
						Sty I	C`CWVG,G	7	Swa I	ATTT AAAT	1
						Taq I	T`CG,A	20	Tfi I	G`AWT,C	11
						Tsp45 I	`GTSAC,	11	Tth111 I	GACN`N,NGTC	-
						Tth111 II	CAARCA 16/14	8	Vsp I	AT`TA,AT	7
						Xba I	T`CTAG,A	-	Xca I	GTA TAC	-
						Xcm I	CCANNNN,N`NNNNTGG-	-	Xho I	C`TCGA,G	1
						Xho II	R`GATC,Y	11	Xma I	C`CCGG,G	5
						Xma III	C`GGCC,G	2	Xmn I	GAANN NNTTC	-

### Site usage in pMPB-OMIR:

Aat II	G,ACGT`C	1	Acc I	GT`MK,AC	1
Acc65 I	G`GTAC,C	1	Aci I	C`CG,C	77
Afe I	AGC GCT	1	Afl II	C`TTAA,G	1
Afl III	A`CRYG,T	4	Age I	A`CCGG,T	2
Aha II	GR`CG,YC	3	Ahd I	GACNN,N`NNGTC	1
Alu I	AG CT	35	Alw I	GGATC 8/9	20
AlwN I	CAG,NNN`CTG	1	Apa I	G,GGCC`C	1
ApaL I	G`TGCA,C	2	Apo I	R`AATT,Y	6
Asc I	GG`CGCG,CC	-	Ase I	AT`TA,AT	7
Asp718	G`GTAC,C	1	Ava I	C`YCGR,G	11
Ava II	G`GWC,C	8	Avr II	C`CTAG,G	1
BamH I	G`GATC,C	1	Ban I	G`GYRC,C	7
Ban II	G,RGCY`C	5	Bbe I	G,CGCC`C	-
Bbs I	GAAGAC 8/12	1	Bbv I	GCAGC 13/17	21
Bbv II	GAAGAC 7/11	1	Bcl I	T`GATC,A	2
Bcn I	CC,S`GG	19	Bfa I	C`TA,G	19
Bgl I	GCCN,NNN`NGGC	3	Bgl II	A`GATC,T	1
Blp I	GC`TNA,GC	2	Bpm I	CTGGAG 22/20	6
Bsa I	GGTCTC 7/11	2	BsaA I	YAC GTR	6
BsaB I	GATNN NNATC	2	BsaH I	GR`CG,YC	3