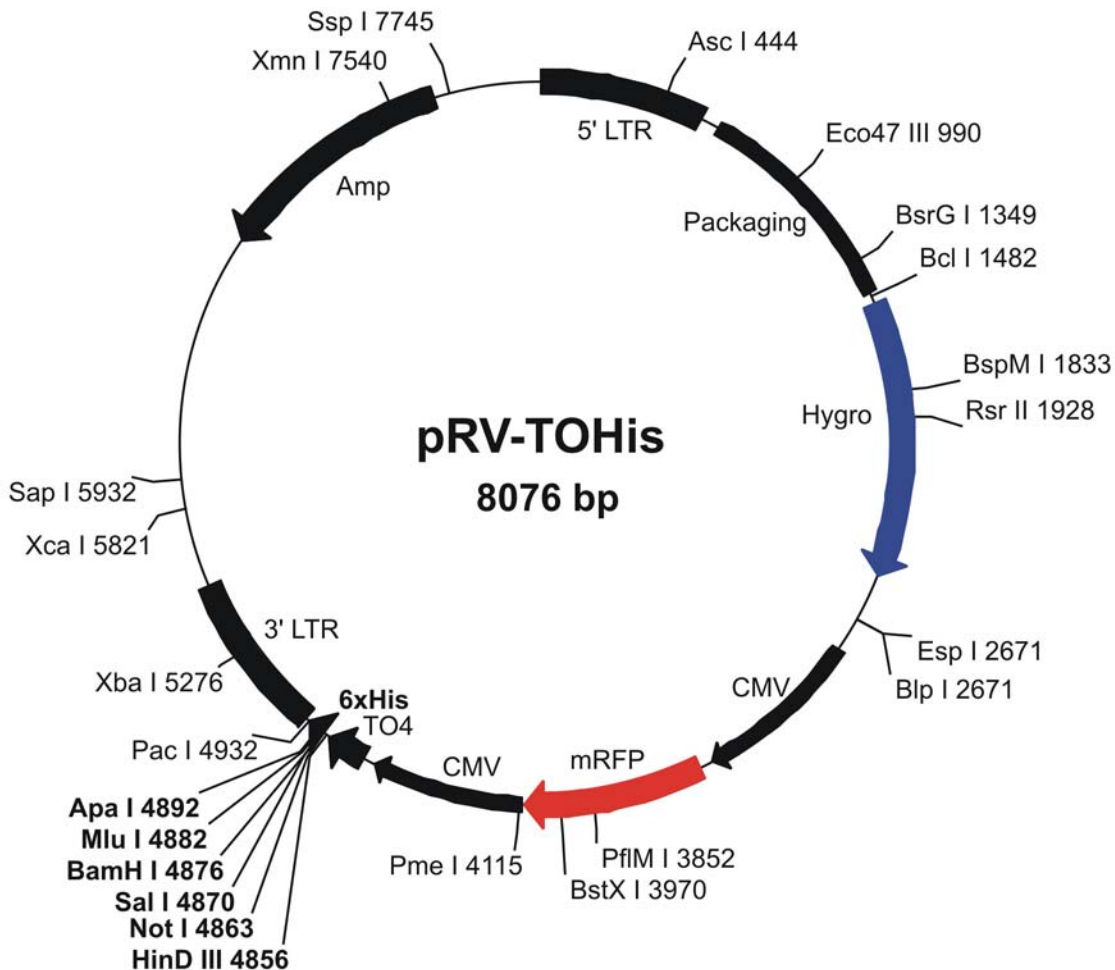


Name of Vector: pRV-TOHis
 Antibiotic Selection: Amp
 Created by: Hong Yin
 (He Lab @ The University of Chicago)
 Date of Creation: February 2005



Linker Sequence

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Bgl II (1/4)  Hind III  Not I  Sal I  BamH I  Mlu I  Apa I
|-----|-----|-----|-----|-----|-----|
agatc taa gct tgc ggc cgc gtc gac gga tcc acg cgt ggg ccc gga ggc ggc
      -  A  C  G  R  V  D  G  S  T  R  G  P  G  G  G
                                     |-----|-----|
                                     TGA attc ttaattaa
                                     |-----|-----|
                                     EcoR I (1/4)  Pac I

cat cat cac cat cac cat TGA attc ttaattaa
 H  H  H  H  H  H
└──────────────────────────┘
6x His Tag
  
```

pRV-TOHis (6xHis tag) Full-length Sequence

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ATCGCCGCC GTGCCTGCC ATTGGGTGC **caga tcc**
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GCGGGCTTCT GCCTCTTAGA CCACTCTACC CTATTCCCCA CACTCACCGG AGCCAAAGCC GCGGCCCTTC
CGTTTTCTTG CT

Unique enzymes in pRV-TOHis:

Table listing enzymes and their recognition sites. Includes enzymes like Asc I (GG`CGCG,CC), Eco47 III (AGC|GCT), BsrG I (T`GTAC,A), Bcl I (T`GATC,A), BspM I (ACCTGC 10/14), Rsr II (CG`GWC,CG), Blp I (GC`TNA,GC), Esp I (GC`TNA,GC), PflM I (CCAN,NNN`NTGG), BstX I (CCAN,NNNN`NTGG), Pme I (CTTT|AAAC), Hind III (A`AGCT,T), Not I (GC`GGCC,GC), Sal I (G`TCGA,C), BamH I (G`GATC,C), Mlu I (A`CGCG,T), Bsp120 I (G`GGCC,C), Apa I (G,GGCC`C), Pac I (TTA,AT`TAA), Xba I (T`CTAG,A), Bst1107 I (GTA|TAC), Xca I (GTA|TAC), Sap I (GCTCTTC 8/11), Xmn I (GAANN|NNTTC), Ssp I (AAT|ATT). Total enzymes = 25.

Table listing enzymes and their frequencies across different metrics. Includes enzymes like AlwN I (4), Apa I (1), ApaL I (5), Apo I (6), Asc I (1), Ase I (2), Asp718 (2), Ava I (8), Ava II (15), BamH I (1), Ban I (15), Ban II (9), Bbe I (5), Bbs I (3), Bbv I (13), Bcn I (22), Bfa I (14), Bgl I (7), Bgl II (4), Blp I (1), Bpm I (5), Bsa I (8), BsaA I (4), BsaB I (4), BsaH I (21), BsaJ I (48), BsaW I (8), BseR I (6), Bsg I (2), BsiE I (13), BsiHKA I (9), BsmA I (22), BsmB I (8), BsmF I (18), BsoF I (53).

The following enzymes do not cut in pRV-TOHis:

Table listing enzymes that do not cut in pRV-TOHis. Includes Age I, Bsp1286 I, Hpa I, Nsi I, Avr II, BstB I, Mun I, PaeR7 I, BsiC I, Cla I, Nae I, Pml I, BsiW I, Eco72 I, NgoM I, Sfi I, Bsm I, Fse I, Nru I, Sph I.

pRV-TOHis: sites sorted by name:

Table showing the number of sites for various enzymes in pRV-TOHis. Includes Aat II (12), Acc I (2), Acc65 I (2), Aci I (100), Afl II (3), Afl III (2), Aha II (21), Ahd I (5), Alu I (44), Alw I (21), and many others with their respective site counts.

Table showing the number of sites for various enzymes in pRV-TOHis, continuing from the previous section. Includes Bfa I (14), Bgl I (7), Bgl II (4), Blp I (1), Bpm I (5), Bsa I (8), BsaA I (4), BsaB I (4), BsaH I (21), BsaJ I (48), BsaW I (8), BseR I (6), Bsg I (2), BsiE I (13), BsiHKA I (9), BsmA I (22), BsmB I (8), BsmF I (18), BsoF I (53).

		1675	1728	1856	1887			6156					
		1890	2146	2249	2297	Dsa I	(9)	761	1872	2228	2297		
		2300	2376	2460	2806			3189	3426	3846	4492		
		3532	3580	3733	3797			8054					
		3802	3937	3989	3992	Eae I	(14)	657	791	1176	1197		
		4084	4863	4866	4899			1725	1890	2143	2460		
		5642	5688	5785	5838			3496	3937	3972	4863		
		5954	5972	5975	6093	Eag I	(5)	4899	7329				
		6248	6391	6456	6459			791	1725	1890	2460		
		6665	6993	7182	7332			4863					
		7359	7454	7683	8054	Ear I	(4)	1137	1378	5932	7736		
		8057				Eco47 III	(1)	990					
Bsp120 I	(1)	4888				Eco57 I	(6)	3583	3916	3940	3946		
BspH I	(3)	6768	7776	7881				6595	7609				
BspM I	(1)	1833				EcoN I	(2)	851	1459				
BspM II	(4)	1520	1741	2278	2414	EcoO109 I	(5)	329	1286	2718	5312		
Bsr I	(19)	450	1097	1125	2005			7917					
		2170	3125	3623	4428	EcoR I	(4)	1471	1763	4922	7934		
		5432	5796	5827	6455	EcoR II	(22)	314	622	800	813		
		6468	6582	6988	7106			1234	1259	1282	1302		
		7149	7416	7588				1332	2741	2917	3110		
BsrB I	(7)	403	1109	1911	2269			3596	3750	4220	4413		
		3871	5981	7782				4811	5297	5604	6074		
BsrD I	(2)	7002	7176					6195	6208				
BsrG I	(1)	1349				EcoR V	(4)	138	214	5122	5197		
BssH II	(4)	393	444	4072	5375	Ehe I	(5)	1466	3892	4000	4099		
BssS I	(6)	1620	2099	3500	6221			5429					
		7605	7912			Esp I	(1)	2671					
Bst1107 I	(1)	5821				Fnu4H I	(53)	794	968	984	987		
BstE II	(3)	1154	3568	3739				992	995	1200	1598		
BstN I	(22)	316	624	802	815			1675	1728	1856	1887		
		1236	1261	1284	1304			1890	2146	2249	2297		
		1334	2743	2919	3112			2300	2376	2460	2806		
		3598	3752	4222	4415			3532	3580	3733	3797		
		4813	5299	5606	6076			3802	3937	3989	3992		
		6197	6210					4084	4863	4866	4899		
BstU I	(37)	393	395	446	970			5642	5688	5785	5838		
		972	1202	1541	1730			5954	5972	5975	6093		
		1865	1976	2042	2108			6248	6391	6456	6459		
		2257	2299	2459	2600			6665	6993	7182	7332		
		2602	2692	2889	3711			7359	7454	7683	8054		
		3801	4074	4192	4868			8057					
		4884	5375	5377	5649	Fok I	(14)	499	1207	1367	1889		
		5651	5754	6095	6676			2262	3590	3647	3886		
		7006	7499	7831	7996			4809	5480	5736	6907		
		8056						7088	7375				
BstX I	(1)	3970				Fsp I	(2)	3476	7163				
BstY I	(15)	1517	2831	3414	4106	Gdi II	(16)	790	792	1196	1724		
		4718	4739	4760	4850			1726	1889	1891	2142		
		4876	6689	6700	6786			2459	2461	3497	3938		
		6798	7566	7583				4862	4864	4900	7328		
Bsu36 I	(3)	848	1085	4102		Gsu I	(5)	2187	2241	4833	4948		
Cac8 I	(35)	28	32	395	446			7012					
		657	661	717	1266	Hae I	(10)	659	1178	1871	3431		
		1490	1845	2046	2106			3638	3860	3974	6063		
		2286	2449	2591	2604			6074	6526				
		2677	2816	2915	3108	Hae II	(8)	992	1468	3894	4002		
		4074	4218	4411	4860			4101	5431	5926	6296		
		5007	5011	5377	5639	Hae III	(52)	172	203	248	659		
		5979	6065	6102	6662			793	829	841	1054		
		7053	7186	7998				1178	1199	1264	1727		
Cfr10 I	(4)	1858	2700	4094	7021			1871	1892	1920	2072		
Csp6 I	(25)	347	478	725	1350			2145	2227	2462	2633		
		1502	2436	2489	3047			2700	2719	2913	3106		
		3072	3127	3160	3211			3431	3498	3531	3582		
		3368	3625	3877	4066			3638	3825	3860	3939		
		4350	4375	4430	4463			3974	4083	4216	4409		
		4514	4671	5460	5855			4865	4890	4901	5111		
		7420						5156	5186	5231	6063		
Dde I	(27)	76	166	192	283			6074	6092	6526	6984		
		554	848	1085	1357	Hga I	(17)	7064	7331	7918	8059		
		1898	2585	2671	3615			457	709	962	1571		
		4102	4854	5055	5150			2023	2262	2407	2519		
		5225	5266	5447	5535			3354	3955	4657	4826		
		5858	6323	6732	6898			4858	5744	6158	6736		
		7438	7864	8010				7468					
Dpn I	(45)	96	1113	1245	1430	HgiA I	(9)	414	1804	2106	4700		
		1479	1484	1519	1565			5396	5868	6366	7527		
		1698	1883	1896	1986			7612					
		2293	2413	2777	2786	HgiE II	(2)	5866	6627				
		2802	2833	3416	3512	Hha I	(42)	395	397	446	448		
		3908	4108	4720	4741			715	972	991	1467		
		4762	4783	4808	4852			1679	1732	1976	2044		
		4878	5075	5589	6616			2259	2386	2459	2602		
		6691	6702	6710	6788			3465	3477	3711	3801		
		6800	6905	7246	7264			3893	4001	4074	4076		
		7310	7568	7585	7621			4100	5377	5379	5430		
		7947						5651	5754	5784	5925		
DpnII	(45)	94	1111	1243	1428			5958	6228	6295	6395		
		1477	1482	1517	1563			6569	6678	7071	7164		
		1696	1881	1894	1984			7501	7833				
		2291	2411	2775	2784	HinC II	(3)	2356	4872	7482			
		2800	2831	3414	3510	Hind II	(3)	2356	4872	7482			
		3906	4106	4718	4739	Hind III	(1)	4856					
		4760	4781	4806	4850	Hinf I	(17)	299	518	858	869		
		4876	5073	5587	6614			1616	1738	1938	2189		
		6689	6700	6708	6786			2712	3239	3755	4542		
		6798	6903	7244	7262			5449	5948	6023	6419		
		7308	7566	7583	7619			6936					
		7945						809	1465	1544	2512		
Dra I	(4)	4115	6807	6826	7518	HinI I	(21)	2951	3004	3087	3273		
Dra III	(2)	1808	2101					3444	3891	3948	3999		
Drd I	(5)	2024	2405	3953	5743			4098	4254	4307	4390		

		475	603	624	645	Bfa I	C`TA,G	14	Bgl I	GCCN,NNN`NGGC	7
		790	802	815	1236	Bgl II	A`GATC,T	4	Blp I	GC`TNA,GC	1
		1261	1284	1304	1334	Bpm I	CTGGAG 22/20	5	Bsa I	GGTCTC 7/11	8
		2306	2422	2743	2919	BsaA I	YAC GTR	4	BsaB I	GATNN NNATC	4
		3112	3598	3752	3996	BsaH I	GR`CG,YC	21	BsaJ I	C`CNNG,G	48
		4222	4415	4813	4892	BsaW I	W`CCGG,W	8	BseR I	GAGGAG 16/14	6
		5146	5221	5299	5456	Bsg I	GTGCAG 22/20	2	BsiC I	TT`CG,AA	-
		5457	5585	5606	5627	BsiE I	CG,RY`CG	13	BsiHKA I	G,WGCW`C	9
		5694	5729	6076	6197	BsiW I	C`GTAC,G	-	Bsm I	GAATG,C 7	-
		6210	6428	7124	7475	BsmA I	GTCTC`/9	22	BsmB I	CGTCTC 7/11	8
Sec I	(48)	160	236	315	325	BsmF I	GGGAC 15/19	18	BsoF I	GC`N,GC	53
		473	537	622	623	Bsp120 I	G`GGCC,C	1	Bsp1286 I	G,DGCH`C	-
		761	800	801	813	BspH I	T`CATG,A	3	BspM I	ACCTGC 10/14	1
		814	1234	1303	1312	BspM II	T`CCGG,A	4	Bsr I	ACT,GG`	19
		1332	1333	1872	2073	BsrB I	GAG CGG	7	BsrD I	GCAATG, 8	2
		2228	2297	2528	2741	BsrG I	T`GTAC,A	1	Bssh II	G`CGCG,C	4
		2742	3189	3426	3438	Bsss I	C`TCGT,G	6	Bst1107 I	GTA TAC	1
		3573	3597	3633	3690	BstB I	TT`CG,AA	-	BstE II	G`GTNAC,C	3
		3750	3846	3882	3951	BstN I	CC`W,GG	22	BstU I	CG CG	37
		4077	4492	5144	5219	BstX I	CCAN,NNNN`NTGG	1	Bsty I	R`GATC,Y	15
		5298	5308	5455	5518	Bsu36 I	CC`TNA,GG	3	Cac8 I	GCN NGC	35
SfaN I	(24)	5604	5605	6208	8054	Cfr10 I	R`CCGG,Y	4	Cla I	AT`CG,AT	-
		260	520	1005	1585	Csp6 I	G`TA,C	25	Dde I	C`TNA,G	27
		1729	1796	1868	2053	Dpn I	GA TC	45	DpnII	`GATC,	45
		2283	2363	2385	2541	Dra I	TTT AAA	4	Dra III	CAC,NNN`GTG	2
		3187	4490	5243	5501	Drd I	GACNN,NN`NNGTC	5	Dsa I	C`CRYG,G	9
		5715	5848	5886	5924	Eae I	Y`GGCC,R	14	Eag I	C`GGCC,G	5
Sfc I	(9)	6144	7196	7389	7636	Ear I	CTCTTC 7/10	4	Eco47 III	AGC GCT	1
		984	992	1168	1853	Eco57 I	CTGAAG 21/19	6	Eco72 I	CAC GTG	-
		3764	4994	6313	6504	EcoN I	CCTNN`N,NNAGG	2	Eco109 I	RG`GNC,CY	5
		7182				EcoR I	G`AATT,C	4	EcoR II	`CCWGG,	22
Sma I	(2)	475	5457			EcoR V	GAT ATC	4	Ehe I	GGC GCC	5
SnaB I	(2)	3169	4472			Esp I	GC`TNA,GC	1	Fnu4H I	GC`N,GC	53
Spe I	(2)	727	4131			Fok I	GGATG 14/18	14	Fse I	GG,CCG`CC	-
Ssp I	(1)	7745				Fsp I	TGC GCA	2	Gdi II	`YGGC,CG	16
Stu I	(2)	3638	3860			Gsu I	CTGGAG 21/19	5	Hae I	WGG CCW	10
Sty I	(12)	325	537	1312	1872	Hae II	R,CGCG`Y	8	Hae III	GG CC	52
		3189	3426	3573	3633	Hga I	GAGCG 9/14	17	Hgia I	G,WGCW`C	9
		3846	4492	5308	5518	HgiE II	ACNNNNNNNGGT -1/132	-	Hha I	G,CG`C	42
Taq I	(20)	861	1105	1416	1427	HinC II	GTY RAC	3	Hind II	GTY RAC	3
		1551	1566	1575	1635	Hind III	A`AGCT,T	1	Hinf I	G`ANT,C	17
		2052	2265	2367	2392	HinI I	GR`CG,YC	21	HinP I	G`CG,C	42
		2575	3507	3513	3723	Hpa I	GTT AAC	-	Hpa II	C`CG,G	36
		4784	4871	6148	7592	Hph I	GGTGA 12/11	21	Kas I	G`GGCC,C	5
Tfi I	(9)	299	518	869	1616	Kpn I	G,GTAC`C	2	Mae I	C`TA,G	14
		1738	1938	2189	2712	Mae II	A`CG,T	24	Mae III	`GTNAC,	26
		6023				Mbo I	`GATC,	45	Mbo II	GAAGA 12/11	16
Tsp45 I	(10)	1089	1298	1810	3568	Mlu I	A`CGCG,T	1	Mme I	TCCRAC 25/23	8
		3739	3745	5702	5797	Mnl I	CCTC 10/10	77	Msc I	TGG CCA	3
		7197	7408			Mse I	T`TA,A	20	Msl I	CAYNN NNRTG	4
Tth111 I	(7)	466	878	1284	1580	Msp I	C`CG,G	36	MspA1 I	CMG CKG	14
		2024	5448	5795		Mun I	C`AATT,G	-	Nae I	GCC GGC	-
Tth111 II	(10)	144	220	498	691	Nar I	GG`CG,CC	5	Nci I	CC`s,GG	22
		1740	5128	5203	6637	Nco I	C`CATG,G	5	Nde I	CA`TA,TG	4
		6646	6676			Ngom I	G`CCGG,C	-	Nhe I	G`CTAG,C	2
Vsp I	(2)	4139	7113			Nla III	,CATG`	26	Nla IV	GGN NCC	43
Xba I	(1)	5276				Not I	GC`GGCC,GC	1	Nru I	TG CGA	-
Xca I	(1)	5821				Nsi I	A,TGCA`T	-	Nsp7524 I	R`CATG,Y	2
Xho II	(15)	1517	2831	3414	4106	NspB II	CMG CKG	14	NspH I	R,CATG`Y	2
		4718	4739	4760	4850	Pac I	TTA,AT`TAA	1	Paer7 I	C`TCGA,G	-
		4876	6689	6700	6786	Pal I	GG CC	52	Pf1M I	CCAN,NNN`NTGG	1
		6798	7566	7583		Ple I	GAGTC 9/10	3	Pme I	CTTT AAC	1
Xma I	(2)	473	5455			Pml I	CAC GTG	-	PpuM I	RG`GWC,CY	3
Xma III	(5)	791	1725	1890	2460	Psp1406 I	AA`CG,TT	2	PspA I	C`COGG,G	2
		4863				Pst I	C,TGCA`G	6	Pvu I	CG,AT`CG	2
Xmn I	(1)	7540				Pvu II	CAG CTG	5	Rsa I	GT AC	25
						Rsr II	CG`GWC,CG	1	Sac I	G,AGCT`C	3
						Sac II	CC,GC`GG	2	Sal I	G`TCGA,C	1
						Sap I	GCCTCTC 8/11	1	Sau3A I	`GATC,	45
						Sau96 I	G`GNC,C	44	Sca I	AGT ACT	2
						ScrF I	CC`N,GG	44	Sec I	C`CNNG,G	48
						SfaN I	GCATC 9/13	24	Sfc I	C`TRYA,G	9
						Sfi I	GGCCN,NNN`NGGCC	-	Sma I	CCC GGG	2
						SnaB I	TAC GTA	-	Spe I	A`CTAG,T	2
						Sph I	G,CATG`C	-	Spl I	C`GTAC,G	-
						Srf I	GCCC GGGC	-	Ssp I	AAT ATT	1
						Stu I	AGG CCT	2	Sty I	C`CWGG,G	12
						Taq I	T`CG,A	20	Tfi I	G`ANT,C	9
						Tsp45 I	`GTSAC,	10	Tth111 I	GACN`N,NGTC	7
						Tth111 II	CAARCA 16/14	10	Vsp I	AT`TA,AT	2
						Xba I	T`CTAG,A	1	Xca I	GTA TAC	1
						Xcm I	CCANNNN,N`NNNNTGG-	-	Xho I	C`TCGA,G	-
						Xho II	R`GATC,Y	15	Xma I	C`COGG,G	2
						Xma III	C`GGCC,G	5	Xmn I	GAANN NNTTC	1
Site usage in pRV-TOHis:											
Aat II	G,ACGT`C	12	Acc I	GT`MK,AC	2	Acc65 I	G`GTAC,C	2	Aci I	C`CG,C	100
Afl II	C`TTAA,G	3	Afl III	A`CRYG,T	2	Age I	A`CCGG,T	-	Aha II	GR`CG,YC	21
Ahd I	GACNN,N`NNGTC	5	Alu I	AG CT	44	Alw I	GGATC 8/9	21	AlwN I	CAG,NNN`CTG	4
Apa I	G,GGCC`C	1	ApaL I	G`TGCA,C	5	Apo I	R`AATT,Y	6	Asc I	GG`CGCG,CC	1
Ase I	AT`TA,AT	2	Asp718	G`GTAC,C	2	Ava I	C`YCGR,G	8	Ava II	G`GWC,C	15
Avr II	C`CTAG,G	-	BamH I	G`GATC,C	1	Ban I	G`GYRC,C	15	Ban II	G,RCGY`C	9
Bbe I	G,CGCC`C	5	Bbs I	GAAGAC 8/12	3	Bbv I	GCAGC 13/17	13	Bbv II	GAAGAC 7/11	3
Bcl I	T`GATC,A	1	Bcn I	CC,S`GG	22						