



Vector: **pAdTrace-TO4**

Antibiotic resistance: **Kanamycin**

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Date: May, 2005

pAdTrace-TO4 Full-length Sequence

NNNTTAATTAANNNTCCCTTCCAGCTCTCTGCCCTTTTGGATTGAAGCCAATATGATAATGAGGGGTGGAGTTTGTGACGTGGCGCGGGCGTGGGAACGGGGC
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		6901	7154	7489	7555			6137	6453	7034	7364
		7697	9010					8062	8363	8751	9043
Bgl I	(10)	449	571	642	1981			9060	9062		
		2103	2174	3435	5486	BstX I	(2)	1500	4043		
		7419	9079			BstY I	(18)	944	1641	2477	2498
Bgl II	(3)	2477	2498	2519				2519	2625	2949	2959
Bpm I	(4)	2593	3119	5747	7369			3407	7047	7058	7144
Bsa I	(5)	3183	3571	4547	5059			7156	7545	7557	7809
		7360						8167	8413		
BsaA I	(8)	699	1173	2231	3834	Cac8 I	(54)	445	638	1604	1977
		6045	7569	8300	8859			2170	2720	2897	2901
BsaB I	(7)	1659	2476	2497	2518			3096	3163	3257	3291
		2539	3498	7855				3295	3299	3326	3417
BsaH I	(18)	481	534	617	803			3541	3543	3765	3783
		974	1421	1478	1529			4152	4500	4572	4799
		1628	2013	2066	2149			4803	4930	4937	5040
		2335	2578	3999	4952			5487	5649	5968	6337
		7748	7996					6423	6460	7020	7411
BsaJ I	(44)	719	956	968	1103			7648	7672	7723	7740
		1127	1163	1220	1280			7890	8076	8295	8361
		1376	1412	1481	1607			8367	8395	8399	8440
		2251	2760	3102	3109			8444	8498	8962	9005
		3257	3373	3553	3775			9019	9062		
		3787	3899	4056	4069	Cfr10 I	(10)	202	1624	4352	4848
		4193	4194	4291	4719			5154	5485	7379	8315
		4735	4806	4887	4911			8496	8960		
		4923	4941	5016	5541	Cl a I	(1)	6224			
		5628	5629	5738	6566	Csp6 I	(19)	208	577	602	657
BsaW I	(9)	7601	7805	8159	8428			690	741	898	1155
		1638	2628	3938	5325			1407	1596	2109	2134
		5552	6612	6759	7729			2189	2222	2273	2430
		8027						2632	4687	8301	
BseR I	(5)	954	1278	4645	4961	Dde I	(11)	1145	2822	2931	3285
		5530						3394	3968	4329	4425
Bsg I	(5)	1537	3325	3935	4990			6681	7090	7256	
		5915				Dpn I	(42)	946	1042	1438	1643
BsiE I	(8)	2647	2677	3573	5619			1656	2479	2500	2521
		6322	6746	7905	8892			2542	2567	2627	2692
BsiHKA I	(9)	2459	3048	3078	3946			2951	2961	3409	3501
		4706	5081	6724	8109			3711	4091	4124	4254
		8299						4305	4643	6223	6227
Bsm I	(4)	1748	1841	4028	5059			6974	7049	7060	7068
BsmA I	(14)	792	1891	2324	2570			7146	7158	7263	7547
		3184	3208	3570	3654			7559	7811	7828	7839
		3991	4548	5058	5651			7858	8169	8247	8328
		7361	7839					8337	8415		
BsmB I	(4)	1892	2569	3655	3990	DpnII	(42)	944	1040	1436	1641
BsmF I	(13)	534	685	853	1125			1654	2477	2498	2519
		1144	2066	2217	2385			2540	2565	2625	2690
		3570	4439	4592	5176			2949	2959	3407	3499
		8147						3709	4089	4122	4252
BsoF I	(72)	1062	1110	1263	1327			4303	4641	6221	6225
		1332	1467	1519	1522			6972	7047	7058	7066
		1614	1774	2644	2647			7144	7156	7261	7545
		2677	3025	3028	3031			7557	7809	7826	7837
		3034	3037	3220	3229			7856	8167	8245	8326
		3232	3241	3244	3247			8335	8413		
		3307	3399	3689	4063	Dra I	(6)	1699	3462	5214	5417
		4066	4334	4337	4350			7165	7184		
		4407	4410	4413	4503			8859			
		4676	4795	4846	4914	Dra III	(1)	8859			
		4933	4955	5036	5244	Drd I	(5)	1483	4891	6514	8023
		5790	5793	6312	6330			8814			
		6333	6451	6606	6749	Dsa I	(11)	719	956	1376	2251
		6814	6817	7023	7351			3102	3257	4056	4735
		7802	7905	7957	7968			4887	4911	8428	
		8058	8063	8100	8141	Eae I	(14)	283	1026	1467	1502
		8228	8231	8234	8470			2644	2674	4803	4869
		8566	8607	8621	9039			5083	5478	7902	8076
								8467	8494		
Bsp120 I	(2)	4052	4358			Eag I	(3)	2644	2674	7902	
Bsp1286 I	(2)	3048	8299			Ear I	(3)	6290	8340	8550	
BspH I	(1)	7126				Eco47 III	(3)	3729	4844	5780	
BspM I	(8)	3410	4272	4312	4632	Eco57 I	(10)	1113	1446	1470	1476
		5306	7654	7883	8264			3221	3452	4858	6953
BspM II	(2)	5325	5552					8141	8573		
Bsr I	(20)	655	1153	2187	3714	EcoO109 I	(4)	3581	3784	4747	5041
		4394	5509	5814	6813	EcoR I	(2)	2616	5219		
		6826	6940	7346	7464	EcoR II	(24)	447	640	1126	1280
		7507	7579	7624	7705			1979	2172	2570	2760
		7789	7939	8140	8773			2945	3597	3774	4068
BsrB I	(5)	1401	5761	6339	8609			4113	4193	4599	4718
		9003						4805	4871	5070	5102
BsrD I	(3)	4054	7360	8229				6432	6553	6566	8381
BsrG I	(1)	207				EcoR V	(1)	2671			
BssH II	(6)	1602	3539	3541	4797	Ehe I	(6)	1422	1530	1629	4953
		4928	9060					7749	7997		
BssS I	(5)	1030	4958	5065	6579	Fnu4H I	(72)	1062	1110	1263	1327
		8588						1332	1467	1519	1522
Bst1107 I	(1)	5199						1614	1774	2644	2647
BstE II	(4)	1098	1269	4619	5508			2677	3025	3028	3031
BstN I	(24)	449	642	1128	1282			3034	3037	3220	3229
		1981	2174	2572	2762			3232	3241	3244	3247
		2947	3599	3776	4070			3307	3399	3689	4063
		4115	4195	4601	4720			4066	4334	4337	4350
		4807	4873	5072	5104			4407	4410	4413	4503
		6434	6555	6568	8383			4676	4795	4846	4914
BstU I	(38)	88	231	233	294			4933	4955	5036	5244
		350	419	1241	1331			5790	5793	6312	6330
		1604	1885	1951	2643			6333	6451	6606	6749
		3092	3259	3328	3541			6814	6817	7023	7351
		3543	3545	4150	4665			7802	7905	7957	7968
		4799	4865	4913	4930			8058	8063	8100	8141
		5000	5033	5270	5970			8228	8231	8234	8470

		8566	8607	8621	9039			6901	7154	7489	7555
Fok I	(22)	184	258	1120	1177			7697	9010		
		1416	2568	2921	3305	Mae II	(34)	81	113	187	481
		3635	3834	4130	4172			493	534	617	698
		4406	5014	7265	7446			803	974	1172	2013
		7618	7801	7863	8320			2025	2066	2149	2230
		8345	8709					2335	3603	3833	4098
Fsp I	(3)	1006	7521	8098				5927	6039	6044	6110
Gdi II	(13)	1027	1468	2643	2645			6142	7109	7525	7568
		2673	2675	4870	5082			8112	8299	8803	8815
		5479	7901	7903	8466			8858	8968		
		8493				Mae III	(41)	77	109	183	218
Gsu I	(4)	2592	3120	5748	7370			266	337	420	507
Hae I	(11)	285	961	1168	1390			856	1098	1269	1275
		1504	4134	4805	6421			1785	1952	2039	2388
		6432	6884	8078				3266	3613	4006	4204
Hae II	(14)	1424	1532	1631	3731			4619	4768	5170	5490
		4499	4846	4955	5782			5508	5870	5928	6021
		6284	6654	7751	7999			6040	6045	6089	6111
		9010	9018					6143	6762	6825	6941
Hae III	(46)	285	443	636	961			7224	8116	8422	9032
		1028	1061	1112	1168			9044			
		1355	1390	1469	1504	Mbo I	(42)	944	1040	1436	1641
		1613	1975	2168	2646			1654	2477	2498	2519
		2676	3108	3552	3785			2540	2565	2625	2690
		4054	4068	4134	4192			2949	2959	3407	3499
		4360	4437	4718	4805			3709	4089	4122	4252
		4871	4921	5042	5085			4303	4641	6221	6225
		5480	5889	6421	6432			6972	7047	7058	7066
		6450	6884	7342	7422			7144	7156	7261	7545
		7904	8078	8469	8496			7557	7809	7826	7837
		8709	8851					7856	8167	8245	8326
Hga I	(11)	884	1485	1875	2416			8335	8413		
		2585	2648	3106	4006	Mbo II	(17)	1379	1382	2618	2896
		4855	6516	7094				3997	4087	4288	4325
HgiA I	(9)	2459	3048	3078	3946			4846	6278	7067	7140
		4706	5081	6724	8109			7541	8356	8566	8648
		8299						8998			
HgiE II	(3)	2757	4344	6985		Mlu I	(1)	1883			
Hha I	(60)	88	202	233	350	Mme I	(6)	1372	3191	3386	6620
		995	1007	1241	1331			6804	8835		
		1423	1531	1604	1606	Mnl I	(74)	56	304	900	963
		1630	3094	3415	3541			971	974	1005	1038
		3543	3545	3730	4150			1044	1050	1065	1153
		4498	4743	4787	4799			1215	1248	1298	1355
		4801	4815	4845	4865			1380	1400	1407	1439
		4930	4932	4954	5000			1476	1566	1571	1602
		5035	5272	5781	6139			1676	1715	1724	2432
		6283	6316	6586	6653			2608	2659	2706	2748
		6753	6927	7036	7429			2794	2869	2926	3232
		7522	7652	7750	7821			3451	3456	3571	3655
		7990	7998	8062	8099			3905	4020	4150	4219
		8365	8625	9009	9017			4665	4759	4812	4917
		9043	9062	9064	9073			4939	4942	4954	4974
HinC II	(3)	1760	2639	3340				5147	5275	5550	5673
Hind II	(3)	1760	2639	3340				5740	5764	6022	6169
HinD III	(1)	2657						6304	6514	6587	6838
Hinf I	(20)	769	1285	2301	3363			7238	7319	7465	7761
		3483	3616	3904	4460			7847	7911	8047	8404
		5012	5556	5570	5592			8596	8887		
		6306	6381	6777	7294	Msc I	(4)	285	1504	4805	8078
		8481	8615	8786	8808	Mse I	(33)	5	9	366	1698
HinI I	(18)	481	534	617	803			1759	1880	1898	3382
		974	1421	1478	1529			3461	3813	4398	4446
		1628	2013	2066	2149			5213	5416	5519	5694
		2335	2578	3999	4952			5833	5936	6059	6213
		7748	7996					6217	7112	7164	7169
HinP I	(60)	86	200	231	348			7183	7236	7471	7510
		993	1005	1239	1329			8669	8681	8698	8796
		1421	1529	1602	1604			9066			
		1628	3092	3413	3539	Msl I	(6)	724	2256	4041	4106
		3541	3543	3728	4148			5300	8433		
		4496	4741	4785	4797	Msp I	(40)	203	1526	1625	1639
		4799	4813	4843	4863			2629	3109	3374	3554
		4928	4930	4952	4998			3899	3939	4189	4291
		5033	5270	5779	6137			4353	4381	4790	4849
		6281	6314	6584	6651			5016	5155	5326	5486
		6751	6925	7034	7427			5553	5629	6613	6760
		7520	7650	7748	7819			6786	6976	7380	7414
		7988	7996	8060	8097			7481	7603	7730	7901
		8363	8623	9007	9015			7978	8000	8028	8159
		9041	9060	9062	9071			8249	8316	8497	8961
Hpa I	(1)	1760				MspAl I	(15)	1521	2688	3243	3259
Hpa II	(40)	203	1526	1625	1639			3401	3563	4309	4336
		2629	3109	3374	3554			4412	4913	5789	6748
		3899	3939	4189	4291			6993	7742	8102	
		4353	4381	4790	4849	Mun I	(2)	1747	3357		
		5016	5155	5326	5486	Nae I	(3)	5487	8498	8962	
		5553	5629	6613	6760	Nar I	(6)	1421	1529	1628	4952
		6786	6976	7380	7414			7748	7996		
		7481	7603	7730	7901	Nci I	(18)	1526	3110	3374	3375
		7978	8000	8028	8159			3554	3555	3900	4292
		8249	8316	8497	8961			4382	4791	5017	5629
Hph I	(19)	120	734	1109	1280			5630	6786	7482	7603
		1331	1552	2266	3624			8000	8160		
		4614	4785	5085	5181	Nco I	(7)	719	956	1376	2251
		5503	6106	7143	7370			3102	4887	8428	
		7544	8175	8861		Nde I	(2)	593	2125		
Kas I	(6)	1420	1528	1627	4951	Ngom I	(3)	5485	8496	8960	
		7747	7995			Nla III	(40)	162	663	723	960
Kpn I	(1)	2635						993	1011	1380	1503
Mae I	(14)	951	1645	1846	1891			2195	2255	2903	3044
		2664	2712	2956	5739			3098	3106	3638	3688

Hga I	GACGC 9/14	11	HgiA I	G,WGCW`C	9	Ple I	GAGTC 9/10	3	Pme I	CTTT AAAC	1
HgiE II	ACCNNNNNNGGT -1/133		Hha I	G,CG`C	60	Pml I	CAC GTG	-	PpuM I	RG`GWC,CY	2
Hinc II	GTY RAC	3	Hind II	GTY RAC	3	Pep1406 I	AA`CG,TT	1	Pspa I	C`CCGG,G	3
Hind III	A`AGCT,T	1	Hinf I	G`ANT,C	20	Pst I	C,TGCA`G	5	Pvu I	CG,AT`CG	-
HinI I	GR`CG,YC	18	HinP I	G`CG,C	60	Pvu II	CAG CTG	7	Rsa I	GT AC	19
Hpa I	GTT AAC	1	Hpa II	C`CG,G	40	Rsr II	CG`GWC,CG	1	Sac I	G,AGT`C	3
Hph I	GGTGA 12/11	19	Kas I	G`GCGC,C	6	Sac II	CC,GC`GG	2	Sal I	G`TCGA,C	1
Kpn I	G,GTAC`C	1	Mae I	C`TA,G	14	Sap I	GCTCTTC 8/11	3	Sau3A I	`GATC,	42
Mae II	A`CG,T	34	Mae III	`GTNAC,	41	Sau96 I	G`GNC,C	31	Sca I	AGT ACT	-
Mbo I	`GATC,	42	Mbo II	GAAGA 12/11	17	ScrF I	CC`N,GG	42	Sec I	C`CINNG,G	44
Mlu I	A`CGCG,T	1	Mme I	TCCRAC 25/23	6	SfaN I	GCATC 9/13	19	Sfc I	C`TRYA,G	7
Mnl I	CCTC 10/10	74	Msc I	TGG CCA	4	Sfi I	GGCCN,NNN`NGGCC	-	Sma I	CCC GGG	3
Mse I	T`TA,A	33	Msl I	CAYNN NNRTG	6	SnaB I	TAC GTA	3	Spe I	A`CTAG,T	-
Msp I	C`CG,G	40	MspAl I	CMG CKG	15	Sph I	G,CATG`C	4	SpI I	C`GTAC,G	-
Mun I	C`AATT,G	2	Nae I	GCC GGC	3	Srf I	GCCC GGGC	-	Ssp I	AAT ATT	-
Nar I	GG`CG,CC	6	Nci I	CC`S,GG	18	Stu I	AGG CCT	2	Sty I	C`CWVG,G	14
Nco I	C`CATG,G	7	Nde I	CA`TA,TG	2	Taq I	T`CG,A	17	Tfi I	G`AWT,C	7
NgoM I	G`CCGG,C	3	Nhe I	G`CTAG,C	-	Tsp45 I	`GTSAC,	22	Tth111 I	GACN`N,NGTC	2
Nla III	,CATG`	40	Nla IV	GGN NCC	41	Tth111 II	CAARCA 16/14	10	Vsp I	AT`TA,AT	6
Not I	GC`GGCC,GC	1	Nru I	TCG CGA	-	Xba I	T`CTAG,A	2	Xca I	GTA TAC	1
Nsi I	A,TGCA`T	2	Nsp7524 I	R`CATG,Y	9	Xcm I	CCANNNN,N`NNNNTGG3		Xho I	C`TCGA,G	1
NspB II	CMG CKG	15	NspH I	R,CATG`Y	9	Xho II	R`GATC,Y	18	Xma I	C`CCGG,G	3
Pac I	TTA,AT`TAA	2	PaeR7 I	C`TCGA,G	1	Xma III	C`GGCC,G	3	Xmn I	GAANN NNTTC	1
Pal I	GG CC	46	Pf1M I	CCAN,NNN`NTGG	2						