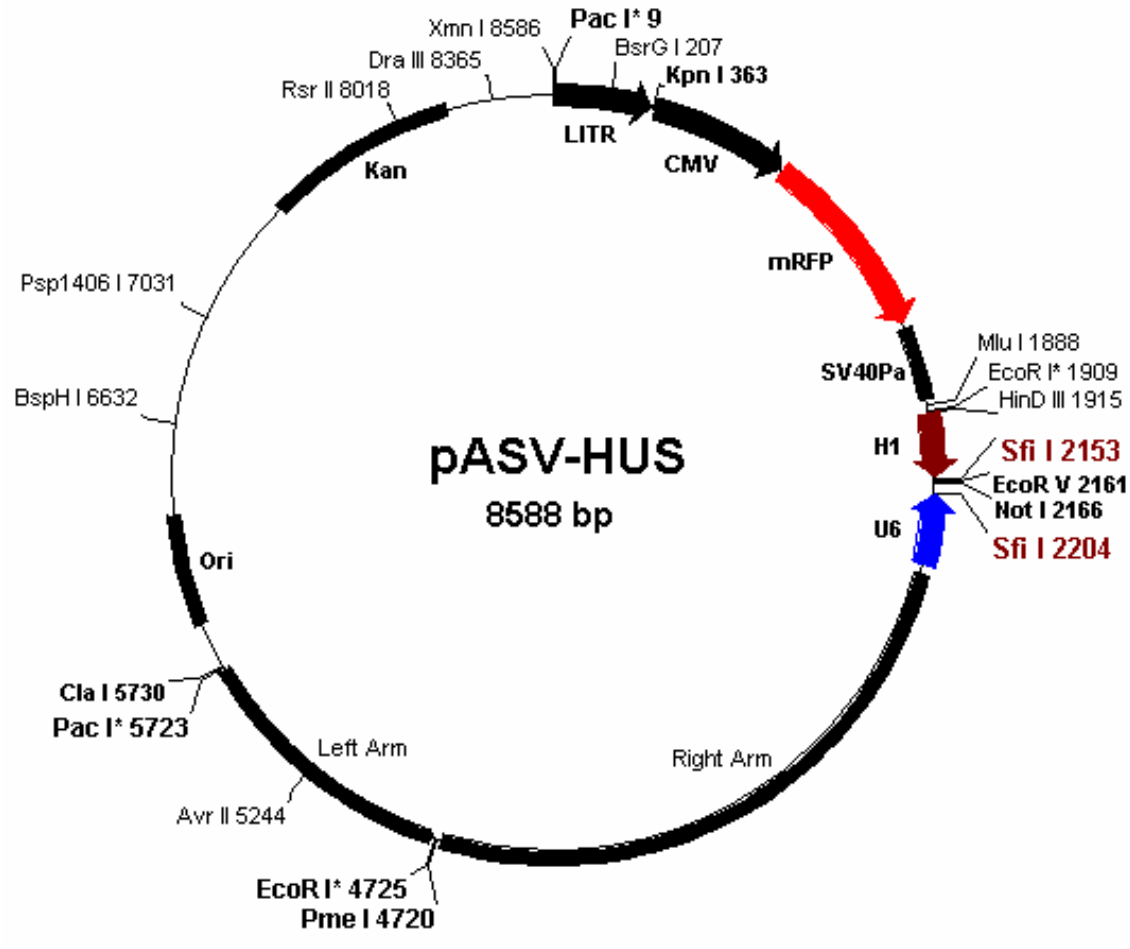
Vector: pASV-HUS (adenoviral shuttle vector for siRNA expression)

Antibiotic Selection: Kan

Creator(s): Qing Luo, Molecular Oncology Lab of The University of Chicago Medical Center

Date of Construction: August, 2005



Sfi I Site Stuffer and siRNA Cassette Design:

```
                    EcoRV  Not I      M13Rev     BstX I
H1>>> ggccaaaacGGCCgatatcGCGGCCGCggaaacagctatgaCCAtgacgcTGGCCgttttggcc
      ccggttttgCCGGctatagcgccggcgcctttgtcgatactggtactgcgaccggcaaaaccgg <<<U6
```

Sfi I Digestion

```
5'-GGCCAAAA        A(n19-27nt)TTTT        TGGCC-3'
3'-CCGGT             TTTT(n19-27nt)A    AAAACCGG-5'
```

pASV-HUS Full-Length Sequence
(Adenoviral shuttle vector for siRNA expression)

NNNTTAATTAANNNTCCCTTCCAGCTCTCTGCCCCTTTTGGATTGAAGCCAATATGATAATGAGGGGGTGGAGTTTGTGACGTGGCGCGGGGCGTG
GGAACGGGGCGGGTGACGTAGTAGTGTGGCGGAAGTGTGATGTTGCAAGTGTGGCGGAACACATGTAAGCGACGGATGTGGCAAAAGTGACGTTTT
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TTTCGCGGGAAAACTGAATAAGAGGAAGTGAAATCTGAATAATTTTGTGTTACTCATAGCGCGTAANNN**ggtacc**TAGTTATTAATAGTAATCAATTACGGGGTCA
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Unique enzymes in pASV-HUS:

BsrG I	T`GTAC,A	207
Acc65 I	G`GTAC,C	359
Asp718	G`GTAC,C	359
Kpn I	G,GTAC`C	363
Hpa I	GTT|AAC	1765
Mlu I	A`CGCG,T	1888
HinD III	A`AGCT,T	1915
BsiC I	TT`CG,AA	1924
BstB I	TT`CG,AA	1924
Ssp I	AAT|ATT	2051
EcoR V	GAT|ATC	2161
Not I	GC`GGCC,GC	2166
Bst1107 I	GTA|TAC	4705
Xca I	GTA|TAC	4705
Pme I	CTTT|AAAC	4720
Avr II	C`CTAG,G	5244
Cla I	AT`CG,AT	5730
BspH I	T`CATG,A	6632
Psp1406 I	AA`CG,TT	7031
Rsr II	CG`GWC,CG	8018
Dra III	CAC,NNN`GTG	8365
Xmn I	GAANN|NNTTC	8586

Number of enzymes = 22

The following enzymes do not cut in pASV-HUS:

Afl II	Age I	Asc I	BamH I	Bgl II
Blp I	BsiW I	Bsu36 I	Eco72 I	EcoN I
Esp I	Fse I	Nhe I	Nru I	PaeR7 I
Pml I	Pvu I	Sal I	Sca I	Spe I

pASV-HUS: sites sorted by name:

Aat II	(6)	489	542	625	811
		982	1937		
Acc I	(2)	3766	4704		
Acc65 I	(1)	359			
Aci I	(114)	88	106	126	151
		233	243	294	422
		450	462	476	643
		734	767	871	892
		953	1067	1090	1114
		1189	1267	1336	1406
		1471	1619	1945	1960
		1979	2165	2169	2171
		2537	2540	2543	2669
		2732	2735	2738	2747
		2759	2763	2765	2797
		2828	2832	2962	3051
		3069	3197	3315	3568
		3571	3656	3660	3677
		3773	3853	3992	4009
		4067	4110	4171	4181
		4417	4419	4461	4537
		4542	4551	4879	5151
		5265	5295	5470	5602
		5623	5641	5752	5778
		5795	5838	5845	5866
		5957	5985	6112	6131
		6252	6362	6497	6506
		6868	6959	7089	7212
		7308	7411	7474	7568
		7632	7733	7736	7976
		8016	8021	8071	8087
		8113	8255	8394	8509
		8536	8564		
Afl III	(4)	158	1888	4871	5912
Aha II	(15)	486	539	622	808
		979	1426	1483	1534
		1633	1934	2040	3505
		4458	7254	7502	
Ahd I	(3)	1142	3069	6805	
Alu I	(45)	25	930	1097	1214
		1331	1460	1526	1556
		1781	1917	2180	2582
		2815	2907	3187	3273
		3323	3473	3815	3842
		3912	3918	4121	4441
		4498	4585	4829	5044
		5368	5854	6080	6170
		6216	6473	6994	7123
		7176	7202	7248	7339
		7608	8066	8195	8413
		8452			
Alw I	(24)	945	1653	2472	2920
		3012	3211	3602	3765
		4143	5727	5734	6474
		6560	6560	6657	6658
		7058	7059	7322	7339
		7369	7680	7747	7926
AlwN I	(6)	2749	2907	2992	4713
		6328	7126		
Apa I	(3)	1966	3562	3868	
ApaL I	(2)	3448	6226		
Apo I	(7)	257	1816	1909	3459
		4725	8167	8178	
Ase I	(6)	5	371	2376	5200
		5719	6977		
Asp718	(1)	359			
Ava I	(5)	1224	1416	2879	3059
		5134			
Ava II	(7)	3063	3087	4112	4253
		4331	6943	8018	
Avr II	(1)	5244			
Ban I	(17)	359	829	1080	1338
		1425	1533	1632	2039
		3245	3666	4457	5361
		6753	7253	7501	7536
		8402			
Ban II	(10)	1023	1966	2584	2641
		2797	3562	3868	4587
		7867	8440		
Bbe I	(7)	1429	1537	1636	2043
		4461	7257	7505	
Bbs I	(2)	1383	4351		
Bbv I	(19)	1535	1790	2542	2545
		2737	2764	2824	2916
		3851	3867	3927	4450
		5310	6331	6334	6540
		7575	7617	8138	
Bbv II	(2)	1382	4352		
Bcl I	(2)	1659	7343		
Bcn I	(18)	1532	2617	2881	2882
		3061	3062	3407	3799
		3889	4298	4524	5136
		5137	6293	6989	7110
		7507	7667		
Bfa I	(13)	364	956	1650	1851
		1898	1975	5245	6407
		6660	6995	7061	7203
		8516			
Bgl I	(9)	454	576	647	2153
		2204	2941	4992	6925
		8585			
Bpm I	(3)	2625	5253	6875	
Bsa I	(6)	2127	2689	3077	4053
		4565	6866		
BsaA I	(8)	704	1178	2339	3340
		5551	7075	7806	8365
BsaB I	(3)	1664	3004	7361	
BsaH I	(15)	486	539	622	808
		979	1426	1483	1534
		1633	1934	2040	3505
		4458	7254	7502	
BsaJ I	(46)	724	961	973	1108
		1132	1168	1225	1285
		1381	1417	1486	1612
		1950	2003	2169	2461
		2608	2615	2763	2879
		3059	3281	3293	3405
		3562	3575	3699	3700
		3797	4225	4241	4312
		4393	4417	4429	4447
		4522	5047	5134	5135
		5244	6072	7107	7311
		7665	7934		
BsaW I	(8)	1643	3444	4831	5058
		6118	6265	7235	7533
BseR I	(5)	959	1283	4151	4467
		5036			

Bsg I	(5)	1542	2831	3441	4496
		5421			
BsiC I	(1)	1924			
BsiE I	(8)	2157	2169	3079	5125
		5828	6252	7411	8398
BsiHKA I	(8)	2554	2584	3452	4212
		4587	6230	7615	7805
Bsm I	(4)	1753	1846	3534	4565
BsmA I	(12)	797	2128	2690	2714
		3076	3160	3497	4054
		4564	5157	6867	7345
BsmB I	(2)	3161	3496		
BsmF I	(11)	539	690	858	1130
		1149	2040	3076	3945
		4098	4682	7653	
BsoF I	(71)	1067	1115	1268	1332
		1337	1472	1524	1527
		1619	1779	2166	2169
		2531	2534	2537	2540
		2543	2726	2735	2738
		2747	2750	2753	2813
		2905	3195	3569	3572
		3840	3843	3856	3913
		3916	3919	4009	4182
		4301	4352	4420	4439
		4461	4542	4750	5296
		5299	5818	5836	5839
		5957	6112	6255	6320
		6323	6529	6857	7308
		7411	7463	7474	7564
		7569	7606	7647	7734
		7737	7740	7976	8072
		8113	8127	8545	
Bsp120 I	(3)	1962	3558	3864	
Bsp1286 I	(2)	2554	7805		
BspH I	(1)	6632			
BspM I	(8)	2916	3778	3818	4138
		4812	7160	7389	7770
BspM II	(2)	4831	5058		
Bsr I	(20)	660	1158	1967	3220
		3900	5015	5320	6319
		6332	6446	6852	6970
		7013	7085	7130	7211
		7295	7445	7646	8279
BsrB I	(6)	1406	1947	5267	5845
		8115	8509		
BsrD I	(3)	3560	6866	7735	
BsrG I	(1)	207			
BssH II	(7)	1607	1992	3045	3047
		4303	4434	8566	
BssS I	(5)	1035	4464	4571	6085
		8094			
Bst1107 I	(1)	4705			
BstB I	(1)	1924			
BstE II	(4)	1103	1274	4125	5014
BstN I	(20)	454	647	1133	1287
		2005	3105	3282	3576
		3621	3701	4107	4226
		4313	4379	4578	4610
		5940	6061	6074	7889
BstU I	(41)	88	231	233	294
		350	424	1246	1336
		1609	1890	1960	1994
		1996	2165	2171	2598
		2765	2834	3047	3049
		3051	3656	4171	4305
		4371	4419	4436	4506
		4539	4776	5476	5643
		5959	6540	6870	7568
		7869	8257	8549	8566
		8568			
BstX I	(3)	1505	2194	3549	
BstY I	(13)	949	1646	2465	2913
		6553	6564	6650	6662
		7051	7063	7315	7673
		7919			
Cac8 I	(53)	450	643	1609	1962
		1994	1998	2196	2602
		2669	2763	2797	2801
		2805	2832	2923	3047
		3049	3271	3289	3658
		4006	4078	4305	4309
		4436	4443	4546	4993
		5155	5474	5843	5929
		5966	6526	6917	7154
		7178	7229	7246	7396
		7582	7801	7867	7873
		7901	7905	7946	7950
		8004	8468	8511	8525
		8568			
Cfr10 I	(10)	202	1629	3858	4354
		4660	4991	6885	7821
		8002	8466		
Cla I	(1)	5730			
Csp6 I	(14)	208	360	582	607
		662	695	746	903
		1160	1412	1601	2347
		4193	7807		
Dde I	(9)	1150	2791	2900	3474
		3835	3931	6187	6596
		6762			
Dpn I	(35)	951	1047	1443	1648
		1661	2143	2467	2915
		3007	3217	3597	3630
		3760	3811	4149	5729
		5733	6480	6555	6566
		6574	6652	6664	6769
		7053	7065	7317	7334
		7345	7364	7675	7753
		7834	7843	7921	
DpnII	(35)	949	1045	1441	1646
		1659	2141	2465	2913
		3005	3215	3595	3628
		3758	3809	4147	5727
		5731	6478	6553	6564
		6572	6650	6662	6767
		7051	7063	7315	7332
		7343	7362	7673	7751
		7832	7841	7919	
Dra I	(8)	1704	2284	2297	2968
		4720	4923	6671	6690
Dra III	(1)	8365			
Drd I	(5)	1488	4397	6020	7529
		8320			
Dsa I	(11)	724	961	1381	2169
		2608	2763	3562	4241
		4393	4417	7934	
Eae I	(16)	283	1031	1472	1507
		2145	2154	2166	2196
		4309	4375	4589	4984
		7408	7582	7973	8000
Eag I	(3)	2154	2166	7408	
Ear I	(4)	2453	5796	7846	8056
Eco47 III	(3)	3235	4350	5286	
Eco57 I	(10)	1118	1451	1475	1481
		2727	2958	4364	6459
		7647	8079		
EcoO109 I	(5)	2443	3087	3290	4253
		4547			
EcoR I	(2)	1909	4725		
EcoR II	(20)	452	645	1131	1285
		2003	3103	3280	3574
		3619	3699	4105	4224
		4311	4377	4576	4608
		5938	6059	6072	7887
EcoR V	(1)	2161			
Ehe I	(7)	1427	1535	1634	2041
		4459	7255	7503	
Fnu4H I	(71)	1067	1115	1268	1332
		1337	1472	1524	1527
		1619	1779	2166	2169
		2531	2534	2537	2540
		2543	2726	2735	2738
		2747	2750	2753	2813
		2905	3195	3569	3572
		3840	3843	3856	3913
		3916	3919	4009	4182
		4301	4352	4420	4439
		4461	4542	4750	5296
		5299	5818	5836	5839
		5957	6112	6255	6320
		6323	6529	6857	7308
		7411	7463	7474	7564
		7569	7606	7647	7734
		7737	7740	7976	8072
		8113	8127	8545	
Fok I	(20)	184	258	1125	1182
		1421	2811	3141	3340
		3636	3678	3912	4520
		6771	6952	7124	7307
		7369	7826	7851	8215
Fsp I	(3)	1011	7027	7604	
Gdi II	(15)	1032	1473	2146	2153
		2155	2165	2167	2195
		4376	4588	4985	7407
		7409	7972	7999	
Gsu I	(3)	2626	5254	6876	
Hae I	(12)	285	966	1173	1395
		1509	2207	3640	4311
		5927	5938	6390	7584
Hae II	(15)	1429	1537	1636	2043
		3237	4005	4352	4461
		5288	5790	6160	7257
		7505	8516	8524	
Hae III	(49)	285	448	641	966
		1033	1066	1117	1173
		1360	1395	1474	1509
		1618	1964	2147	2156
		2168	2198	2207	2444
		2614	3058	3291	3560
		3574	3640	3698	3866
		3943	4224	4311	4377
		4427	4548	4591	4986
		5395	5927	5938	5956
		6390	6848	6928	7410
		7584	7975	8002	8215
		8357			
Hga I	(8)	889	1490	2199	2612
		3512	4361	6022	6600
HgiA I	(8)	2554	2584	3452	4212
		4587	6230	7615	7805
HgiE II	(2)	3850	6491		
Hha I	(64)	88	202	233	350
		1000	1012	1246	1336
		1428	1536	1609	1611
		1635	1994	1996	2002

		2042	2600	2921	3047
		3049	3051	3236	3656
		4004	4249	4293	4305
		4307	4321	4351	4371
		4436	4438	4460	4506
		4541	4778	5287	5645
		5789	5822	6092	6159
		6259	6433	6542	6935
		7028	7158	7256	7327
		7496	7504	7568	7605
		7871	8131	8515	8523
		8549	8568	8570	8579
HinC II	(2)	1765	2846		
Hind II	(2)	1765	2846		
HinD III	(1)	1915			
Hinf I	(22)	774	1290	1955	2113
		2428	2869	2989	3122
		3410	3966	4518	5062
		5076	5098	5812	5887
		6283	6800	7987	8121
		8292	8314		
HinI I	(15)	486	539	622	808
		979	1426	1483	1534
		1633	1934	2040	3505
		4458	7254	7502	
HinP I	(64)	86	200	231	348
		998	1010	1244	1334
		1426	1534	1607	1609
		1633	1992	1994	2000
		2040	2598	2919	3045
		3047	3049	3234	3654
		4002	4247	4291	4303
		4305	4319	4349	4369
		4434	4436	4458	4504
		4539	4776	5285	5643
		5787	5820	6090	6157
		6257	6431	6540	6933
		7026	7156	7254	7325
		7494	7502	7566	7603
		7869	8129	8513	8521
		8547	8566	8568	8577
Hpa I	(1)	1765			
Hpa II	(39)	203	1531	1630	1644
		2615	2880	3060	3405
		3445	3695	3797	3859
		3887	4296	4355	4522
		4661	4832	4992	5059
		5135	6119	6266	6292
		6482	6886	6920	6987
		7109	7236	7407	7484
		7506	7534	7665	7755
		7822	8003	8467	
Hph I	(19)	120	739	1114	1285
		1336	1557	2074	3130
		4120	4291	4591	4687
		5009	5612	6649	6876
		7050	7681	8367	
Kas I	(7)	1425	1533	1632	2039
		4457	7253	7501	
Kpn I	(1)	363			
Mae I	(13)	364	956	1650	1851
		1898	1975	5245	6407
		6660	6995	7061	7203
		8516			
Mae II	(33)	81	113	187	486
		498	539	622	703
		808	979	1177	1902
		1934	2090	2333	2338
		3109	3339	3604	5433
		5545	5550	5616	5648
		6615	7031	7074	7618
		7805	8309	8321	8364
		8474			
Mae III	(41)	77	109	183	218
		266	337	425	512
		861	1103	1274	1280
		1790	1970	2255	2334
		2772	3119	3512	3710
		4125	4274	4676	4996
		5014	5376	5434	5527
		5546	5551	5595	5617
		5649	6268	6331	6447
		6730	7622	7928	8538
		8550			
Mbo I	(35)	949	1045	1441	1646
		1659	2141	2465	2913
		3005	3215	3595	3628
		3758	3809	4147	5727
		5731	6478	6553	6564
		6572	6650	6662	6767
		7051	7063	7315	7332
		7343	7362	7673	7751
		7832	7841	7919	
Mbo II	(17)	1384	1387	2023	2441
		3503	3593	3794	3831
		4352	5784	6573	6646
		7047	7862	8072	8154
		8504			
Mlu I	(1)	1888			
Mme I	(6)	1377	2697	2892	6126
		6310	8341		
Mnl I	(69)	56	304	905	968
		976	979	1010	1043
		1049	1055	1070	1158
		1220	1253	1303	1360
		1385	1405	1412	1444
		1481	1571	1576	1607
		1681	1720	1729	2017
		2217	2455	2738	2957
		2962	3077	3161	3411
		3526	3656	3725	4171
		4265	4318	4423	4445
		4448	4460	4480	4653
		4781	5056	5179	5246
		5270	5528	5675	5810
		6020	6093	6344	6744
		6825	6971	7267	7353
		7417	7553	7910	8102
		8393			
Msc I	(4)	285	1509	4311	7584
Mse I	(36)	5	9	371	1703
		1764	1885	1919	2283
		2296	2376	2888	2967
		3319	3904	3952	4719
		4922	5025	5200	5339
		5442	5565	5719	5723
		6618	6670	6675	6689
		6742	6977	7016	8175
		8187	8204	8302	8572
Msl I	(6)	729	2089	3547	3612
		4806	7939		
Msp I	(39)	203	1531	1630	1644
		2615	2880	3060	3405
		3445	3695	3797	3859
		3887	4296	4355	4522
		4661	4832	4992	5059
		5135	6119	6266	6292
		6482	6886	6920	6987
		7109	7236	7407	7484
		7506	7534	7665	7755
		7822	8003	8467	
MspA1 I	(15)	1526	2171	2749	2765
		2907	3069	3815	3842
		3918	4419	5295	6254
		6499	7248	7608	
Mun I	(2)	1752	2863		
Nae I	(3)	4993	8004	8468	
Nar I	(7)	1426	1534	1633	2040
		4458	7254	7502	
Nci I	(18)	1531	2616	2880	2881
		3060	3061	3406	3798
		3888	4297	4523	5135
		5136	6292	6988	7109
		7506	7666		
Nco I	(6)	724	961	1381	2608
		4393	7934		
Nde I	(2)	598	2268		
NgoM I	(3)	4991	8002	8466	
Nla III	(40)	162	668	728	965
		998	1016	1385	1508
		2060	2191	2435	2550
		2604	2612	3144	3194
		3417	3470	3534	3765
		3960	3975	4080	4235
		4397	4624	4658	4805
		4811	4875	4991	5057
		5916	6636	7195	7376
		7721	7907	7938	7964
Nla IV	(40)	361	831	1022	1082
		1118	1166	1340	1361
		1427	1535	1634	1964
		2041	2640	3064	3088
		3247	3560	3668	3689
		3832	3866	3942	4114
		4254	4459	4549	4836
		5363	5944	5983	6755
		6849	6890	7255	7503
		7538	8404	8425	8437
Not I	(1)	2166			
Nsi I	(2)	3358	3536		
Nsp7524 I	(9)	158	2056	2600	3956
		3971	4076	4871	5912
		7903			
NspB II	(15)	1526	2171	2749	2765
		2907	3069	3815	3842
		3918	4419	5295	6254
		6499	7248	7608	
NspH I	(9)	162	2060	2604	3960
		3975	4080	4875	5916
		7907			
Pac I	(2)	9	5723		
Pal I	(49)	285	448	641	966
		1033	1066	1117	1173
		1360	1395	1474	1509
		1618	1964	2147	2156
		2168	2198	2207	2444
		2614	3058	3291	3560
		3574	3640	3698	3866
		3943	4224	4311	4377
		4427	4548	4591	4986
		5395	5927	5938	5956
		6390	6848	6928	7410
		7584	7975	8002	8215
		8357			
PflM I	(2)	1387	3110		
Ple I	(3)	5070	6291	8300	

Pme I	(1)	4720			
PpuM I	(2)	3087	4253		
Psp1406 I	(1)	7031			
PspA I	(3)	2879	3059	5134	
Pst I	(5)	1303	2727	2754	3184
		3917			
Pvu II	(7)	1526	2907	3815	3842
		3918	7248	7608	
Rsa I	(14)	209	361	583	608
		663	696	747	904
		1161	1413	1602	2348
		4194	7808		
Rsr II	(1)	8018			
Sac I	(2)	2584	4587		
Sac II	(3)	2172	2766	4420	
Sap I	(3)	5796	7846	8056	
Sau3A I	(35)	949	1045	1441	1646
		1659	2141	2465	2913
		3005	3215	3595	3628
		3758	3809	4147	5727
		5731	6478	6553	6564
		6572	6650	6662	6767
		7051	7063	7315	7332
		7343	7362	7673	7751
		7832	7841	7919	
Sau96 I	(32)	447	640	1064	1116
		1359	1616	1962	1963
		2443	2612	3057	3063
		3087	3290	3558	3559
		3697	3864	3865	3941
		4112	4222	4253	4331
		4426	4547	5393	6847
		6926	6943	8018	8356
ScrF I	(38)	454	647	1133	1287
		1531	2005	2616	2880
		2881	3060	3061	3105
		3282	3406	3576	3621
		3701	3798	3888	4107
		4226	4297	4313	4379
		4523	4578	4610	5135
		5136	5940	6061	6074
		6292	6988	7109	7506
		7666	7889		
Sec I	(46)	724	961	973	1108
		1132	1168	1225	1285
		1381	1417	1486	1612
		1950	2003	2169	2461
		2608	2615	2763	2879
		3059	3281	3293	3405
		3562	3575	3699	3700
		3797	4225	4241	4312
		4393	4417	4429	4447
		4522	5047	5134	5135
		5244	6072	7107	7311
		7665	7934		
SfaN I	(16)	722	1817	3344	3364
		4149	4541	4622	5750
		5788	6008	7461	7716
		7800	7864	7932	8139
Sfc I	(7)	1299	2723	2750	3180
		3913	6177	6368	
Sfi I	(2)	2153	2204		
Sma I	(3)	2881	3061	5136	
SnaB I	(2)	704	5551		
Sph I	(3)	2604	4080	7907	
Ssp I	(1)	2051			
Stu I	(2)	1173	1395		
Sty I	(15)	724	961	1108	1168
		1381	1950	2461	2608
		3293	4393	4429	4447
		5244	7311	7934	
Taq I	(16)	1042	1048	1258	1907
		1924	2241	4146	5354
		5730	6012	7615	7771
		7795	7831	7993	8398
Tfi I	(10)	1955	2113	2428	2869
		3410	4518	5098	5887
		7987	8121		
Tsp45 I	(24)	77	109	183	218
		1103	1274	1280	1970
		2334	2772	3119	3512
		4125	4274	4676	4996
		5014	5376	5527	5617
		5649	7622	7928	8538
Tth111 I	(2)	2700	7620		
Tth111 II	(9)	2819	2985	3024	4112
		4883	6501	6510	6540
		7938			
Vsp I	(6)	5	371	2376	5200
		5719	6977		
Xba I	(2)	1649	1897		
Xca I	(1)	4705			
Xcm I	(3)	2993	4584	7318	
Xho II	(13)	949	1646	2465	2913
		6553	6564	6650	6662
		7051	7063	7315	7673
		7919			
Xma I	(3)	2879	3059	5134	
Xma III	(3)	2154	2166	7408	
Xmn I	(1)	8586			

Aat II	G,ACGT`C	6	Acc I	GT`MK,AC	2
Acc65 I	G`GTAC,C	1	Aci I	C`CG,C	114
Afl II	C`TTAA,G	-	Afl III	A`CRYG,T	4
Age I	A`CCGG,T	-	Aha II	GR`CG,YC	15
Ahd I	GACNN,N`NNGTC	3	Alu I	AG|CT	45
Alw I	GGATC 8/9	24	AlwN I	CAG,NNN`CTG	6
Apa I	G,GGCC`C	3	ApaL I	G`TGCA,C	2
Apo I	R`AATT,Y	7	Asc I	GG`CGCG,CC	-
Ase I	AT`TA,AT	6	Asp718	G`GTAC,C	1
Ava I	C`YCGR,G	5	Ava II	G`GWC,C	7
Avr II	C`CTAG,G	1	BamH I	G`GATC,C	-
Ban I	G`GYRC,C	17	Ban II	G,RGCY`C	10
Bbe I	G,GCGC`C	7	Bbs I	GAAGAC 8/12	2
Bbv I	GCAGC 13/17	19	Bbv II	GAAGAC 7/11	2
Bcl I	T`GATC,A	2	Bcn I	CC,S`GG	18
Bfa I	C`TA,G	13	Bgl I	GCCN,NNN`NGGC	9
Bgl II	A`GATC,T	-	Blp I	GC`TNA,GC	-
Bpm I	CTGGAG 22/20	3	Bsa I	GGTCTC 7/11	6
BsaA I	YAC|GTR	8	BsaB I	GATNN|NNATC	3
BsaH I	GR`CG,YC	15	BsaJ I	C`CNNG,G	46
BsaW I	W`CCGG,W	8	BseR I	GAGGAG 16/14	5
Bsg I	GTGCAG 22/20	5	BsiC I	TT`CG,AA	1
BsiE I	CG,RY`CG	8	BsiHKA I	G,WGCW`C	8
BsiW I	C`GTAC,G	-	Bsm I	GAATG,C 7	4
BsmA I	GTCTC`/9	12	BsmB I	CGTCTC 7/11	2
BsmF I	GGGAC 15/19	11	BsoF I	GC`N,GC	71
Bsp120 I	G`GGCC,C	3	Bsp1286 I	G,DGCH`C	2
BspH I	T`CATG,A	1	BspM I	ACCTGC 10/14	8
BspM II	T`CCGG,A	2	Bsr I	ACT,GG`	20
BsrB I	GAG|CGG	6	BsrD I	GCAATG, 8	3
BsrG I	T`GTAC,A	1	BssH II	G`CGCG,C	7
BssS I	C`TCGT,G	5	Bst1107 I	GTA|TAC	1
BstB I	TT`CG,AA	1	BstE II	G`GTNAC,C	4
BstN I	CC`W,GG	20	BstU I	CG|CG	41
BstX I	CCAN,NNNN`NTGG	3	BstY I	R`GATC,Y	13
Bsu36 I	CC`TNA,GG	-	Cac8 I	GCN|NGC	53
Cfr10 I	R`CCGG,Y	10	Cla I	AT`CG,AT	1
Csp6 I	G`TA,C	14	Dde I	C`TNA,G	9
Dpn I	GA|TC	35	DpnII	`GATC,	35
Dra I	TTT|AAA	8	Dra III	CAC,NNN`GTG	1
Drd I	GACNN,NN`NNGTC	5	Dsa I	C`CRYG,G	11
Eae I	Y`GGCC,R	16	Eag I	C`GGCC,G	3
Ear I	CTCTTC 7/10	4	Eco47 III	AGC|GCT	3
Eco57 I	CTGAAG 21/19	10	Eco72 I	CAC|GTG	-
EcoN I	CCTNN`N,NNAGG	-	EcoO109 I	RG`GNC,CY	5
EcoR I	G`AATT,C	2	EcoR II	`CCWGG,	20
EcoR V	GAT|ATC	1	Ehe I	GGC|GCC	7
Esp I	GC`TNA,GC	-	Fnu4H I	GC`N,GC	71
Fok I	GGATG 14/18	20	Fse I	GG,CCGG`CC	-
Fsp I	TGC|GCA	3	Gdi II	`YGGC,CG	15
Gsu I	CTGGAG 21/19	3	Hae I	WGG|CCW	12
Hae II	R,GCGC`Y	15	Hae III	GG|CC	49
Hga I	GACGC 9/14	8	HgiA I	G,WGCW`C	8
HgiE II	ACCNNNNNNGGT -1/132		Hha I	G,CG`C	64
HinC II	GTY|RAC	2	Hind II	GTY|RAC	2
HinD III	A`AGCT,T	1	Hinf I	G`ANT,C	22
HinI I	GR`CG,YC	15	HinP I	G`CG,C	64
Hpa I	GTT|AAC	1	Hpa II	C`CG,G	39
Hph I	GGTGA 12/11	19	Kas I	G`GCGC,C	7
Kpn I	G,GTAC`C	1	Mae I	C`TA,G	13
Mae II	A`CG,T	33	Mae III	`GTNAC,	41
Mbo I	`GATC,	35	Mbo II	GAAGA 12/11	17
Mlu I	A`CGCG,T	1	Mme I	TCCRAC 25/23	6
Mnl I	CCTC 10/10	69	Msc I	TGG|CCA	4
Mse I	T`TA,A	36	Msl I	CAYNN|NNRTG	6
Msp I	C`CG,G	39	MspA1 I	CMG|CKG	15
Mun I	C`AATT,G	2	Nae I	GCC|GGC	3
Nar I	GG`CG,CC	7	Nci I	CC`S,GG	18
Nco I	C`CATG,G	6	Nde I	CA`TA,TG	2
NgoM I	G`CCGG,C	3	Nhe I	G`CTAG,C	-
Nla III	,CATG`	40	Nla IV	GGN|NCC	40
Not I	GC`GGCC,GC	1	Nru I	TCG|CGA	-
Nsi I	A,TGCA`T	2	Nsp7524 I	R`CATG,Y	9
NspB II	CMG|CKG	15	NspH I	R,CATG`Y	9
Pac I	TTA,AT`TAA	2	PaeR7 I	C`TCGA,G	-
Pal I	GG|CC	49	PflM I	CCAN,NNN`NTGG	2
Ple I	GAGTC 9/10	3	Pme I	CTTT|AAAC	1
Pml I	CAC|GTG	-	PpuM I	RG`GWC,CY	2
Psp1406 I	AA`CG,TT	1	PspA I	C`CCGG,G	3
Pst I	C,TGCA`G	5	Pvu I	CG,AT`CG	-
Pvu II	CAG|CTG	7	Rsa I	GT|AC	14
Rsr II	CG`GWC,CG	1	Sac I	G,AGCT`C	2
Sac II	CC,GC`GG	3	Sal I	G`TCGA,C	-
Sap I	GCTCTTC 8/11	3	Sau3A I	`GATC,	35
Sau96 I	G`GNC,C	32	Sca I	AGT|ACT	-
ScrF I	CC`N,GG	38	Sec I	C`CNNG,G	46
SfaN I	GCATC 9/13	16	Sfc I	C`TRYA,G	7
Sfi I	GGCCN,NNN`NGGCC	2	Sma I	CCC|GGG	3
SnaB I	TAC|GTA	2	Spe I	A`CTAG,T	-
Sph I	G,CATG`C	3	Spl I	C`GTAC,G	-
Srf I	GCCC|GGGC	-	Ssp I	AAT|ATT	1
Stu I	AGG|CCT	2	Sty I	C`CWWG,G	15
Taq I	T`CG,A	16	Tfi I	G`AWT,C	10
Tsp45 I	`GTSAC,	24	Tth111 I	GACN`N,NGTC	2
Tth111 II	CAARCA 16/14	9	Vsp I	AT`TA,AT	6
Xba I	T`CTAG,A	2	Xca I	GTA|TAC	1
Xcm I	CCANNNN,N`NNNNTGG	3	Xho I	C`TCGA,G	-
Xho II	R`GATC,Y	13	Xma I	C`CCGG,G	3
Xma III	C`GGCC,G	3	Xmn I	GAANN|NNTTC	1

Site usage in pASV-HUS: