Supplemental material

Supplemental Tables S1-S5

Supplementary Tables

Table S1. Primers for amplification of SIRV2 ORFs for yeast two-hybrid screen

SIRV2ORF83aF	CACCATGAAAGTCGAGAGATACAAATG
SIRV2ORF119aF	CACCATGCACATATGTAAAAGTGGTGAG
SIRV2ORF103aF	CACCATGAAAAAGATGAAATTCGAAACGT
SIRV2ORF90F	CACCATGGATGAAGATCTTTTAGTTGAAG
SIRV2ORF109F	CACCATGAATGTAGAAAATCAAGTAG
SIRV2ORF116F	CACCATGAGAAATATGGGCTATCAATATA
SIRV2ORF131aF	CACCATGAGTCAAAAAGTCGAATTTCC
SIRV2ORF103bF	CACCATGAGTTTTTCGTATATATCAATTAGTG
SIRV2ORF111F	CACCATGAGGAGAAAATTAGGAAAAAGAC
SIRV2ORF105aF	CACCATGGAATTTGAAGATTTAGATGTAG
SIRV2ORF62aF	CACCATGAAGATTCTAGTAGATAATG
SIRV2ORF102F	CACCATGATTTTCAATTCGCCAATTGTTC
SIRV2ORF310F	CACCATGAAATTAGTATTTGAAATAACATC
SIRV2ORF399F	CACCATGGAATTCGAAAGAAAAAGTTCTG
SIRV2ORF56bF	CACCATGCAAACTCAAGAACAATCTAAAC
SIRV2ORF119cF	CACCATGGATTTGAAAAAAGTTTTAAATTTTC
SIRV2ORF119cF-TRUNC	CACCATGGATACTGAAAAAATTTTTAAAAAATTTCGAC
SIRV2ORF131bF	CACCATGGCCTCATTAAAACAAATAATAG
SIRV2ORF436F	CACCATGAGTGAAAACACACAAC
SIRV2ORF207F	CACCATGGTAAATATGAATTATGAAG
SIRV2ORF84aF	CACCATGAGGAATATGAGTCAAATAGAAG
SIRV2ORF59bF	CACCATGATGAAGATTATTACATTTAAAATTCC
SIRV2ORF91F	CACCATGACTGATTATAAAAACGGAATAAAG
SIRV2ORF158bF	CACCATGATTTTATCAGATAGAG
SIRV2ORF103cF	CACCATGGAAATTGATCTAAAGAATGAATGTAG
SIRV2ORF76F	CACCATGCATATCTTTGTGAATAACTTCTTG
SIRV2ORF134F	CACCATGGCAAAAGGTCACACATCAAG
SIRV2ORF55F	CACCATGGCACTATTAGGATATGAATGTC
SIRV2ORF335F	CACCATGAAAACTGCAATTTTAACTATG
SIRV2ORF156F	CACCATGGTAGCTAAAGGATTTTATATGTG
SIRV2ORF64F	CACCATGATATCTTATTATTATGATGAAAAAG
SIRV2ORF84cF	CACCATGAATTATCTGAGGAGGAAAGTG
SIRV2ORF84cF-TRUNC	CACCATGAAAATTAAGCAAGCATTAAAAG
SIRV2ORF110F	CACCATGAAAATTGAAGATCCTTTTC
SIRV2ORF488F	CACCATGACACTGTATGACATTTATATAC
SIRV2ORF154F	CACCATGAATCCAAAATATGAAATTGAAG
SIRV2ORF121F	CACCATGAACATTAGACAATCCG
SIRV2ORF69F	CACCATGTCAGAGCAAAAGAGAAG
SIRV2ORF114F	CACCATGAATAAAGTCTATTTGGCAAATG
SIRV2ORF1070F	CACCATGTTTATAATTTTGAAAAGAAAC

SIRV2ORF564F	CACCATGATATATTATATCATGCCTTTAC
SIRV2ORF309F	CACCATGTCTTCAACTTGTAATCCAATTAC
SIRV2ORF158aF	CACCATGAATTATGATGATTATTTTTG
SIRV2ORF269F	CACCATGAGTGTAACTTATACTTCAATTTC
SIRV2ORF269F-TRUNC	CACCATGAATACTTTAAATAAGTTAACAC
SIRV2ORF176F	CACCATGAAAATTTTCACTTTCGTAGG
SIRV2ORF356F	CACCATGCAAAAAACTATTTTCTATGTC
SIRV2ORF94F	CACCATGGTGAAAAAAATGGAGTTTGAAG
SIRV2ORF95F	CACCATGAATTTGAAAAAAGTTAAACGAATTATAG
SIRV2ORF112F	CACCATGAGTTTTTATATAATGTATATTAAGGTG
SIRV2ORF249F	CACCATGGAGGTAAAACAGATAAAGAAG
SIRV2ORF98F	CACCATGGCTATAACATTATTAGAAGGAG
SIRV2ORF98F-TRUNC	CACCATGGGAGAAATTGTCCACTTATATAATG
SIRV2ORF73F	CACCATGTTTTTTGAAGATTCTAATATACAAG
SIRV2ORF108F	CACCATGGGGAAAAAAATGGATGATATAC
SIRV2ORF105bF	CACCATGATAGATGAAAAGGCACAAG
SIRV2ORF119bF	CACCATGCACATATGTAAAAGTGAGG
SIRV2ORF83bF	CACCATGAAAGTCGAGAGATACAAATG
SIRV2ORF83aR	CTAACAACTCTCCAAATATCTCCTA
SIRV2ORF119aR	TTAATGATACTTAATCATTTCAAC
SIRV2ORF103aR	TTACTTTTTGACTTTTCTCCAGAAATG
SIRV2ORF90R	TCATCTCAAATTTTTCACTTTATACAG
SIRV2ORF90R-TRUNC	TCAAGAATTATTATCGACAAATTTTTTATC
SIRV2ORF109R	TTATTGACATTTAAATATAAGTCTTG
SIRV2ORF116R	TTAGGAAATCTTATTAATAGATTTTTC
SIRV2ORF131aR	TTAATATCTAGAAATCTCTGG
SIRV2ORF103bR	TTAGTTTTTTATTAATTTGATCTTATG
SIRV2ORF111R	TTATTTATTATTATTGTTTATCAAATTCTG
SIRV2ORF105aR	TTAAATATTGTTTTCTTCATCCTC
SIRV2ORF62aR	TTAAAGAACTTTAATCCTCTTTATTCC
SIRV2ORF102R	TTAGAAATATAAATTTGTTATCC
SIRV2ORF310R	TTATATTTCTAATTCTATCTC
SIRV2ORF399R	CTATTTTGGCATGACATTTATTTTAC
SIRV2ORF56bR	TTAACCGCCTCGTTTTTGCAAATATTC
SIRV2ORF119cR	TTATGACATTTTTATATCTTTTTTTG
SIRV2ORF131bR	TTAAAACTCCTCCTCAACTG
SIRV2ORF436R	TTACCATCCTCCTAAATTGCTAAATC
SIRV2ORF207R	TTAAAAAAGTGATATAATGCATTTTTG
SIRV2ORF84aR	TCATTTTAAATCACCATTCCCGAAAAC
SIRV2ORF59bR	TCAGAACTTTATTTTCTCAACTTTTG
SIRV2ORF91R	TCAGACATTTAAATCACCTAAC
SIRV2ORF158bR	TTAATCTTCTTTTGCTAAAGTTAC
SIRV2ORF103cR	TCAGTTCTTATTTTCAGTTTCTGAC
SIRV2ORF76R	TTAGTTAAGCAGATAAGAC

SIRV2ORF134R	TTAACTTACATATCCAGTTGGGCTTC
SIRV2ORF55R	TTATTCTTCTTCAGCCTTTATTTC
SIRV2ORF335R	TCATTCTAAGAATCTAGTATATAAATTTC
SIRV2ORF156R	CTAAAGTAAATAAATCGTTACTTTATTTAG
SIRV2ORF64R	TTACCATAATCCCCATTCCTTACTATC
SIRV2ORF84cR	TCATTTTTTATCTAACCTCC
SIRV2ORF110R	TCACTCATCTTCACTTTCCTCCTCAG
SIRV2ORF488R	CTATCTATTTGCAATATTTTGAAAATTC
SIRV2ORF154R	TCACTTATTAAGATATTTTACATAAACTTC
SIRV2ORF121R	TTAGCTGTTAATTCCGTATTTAAATTTG
SIRV2ORF69R	TCATTTTTCCTCACCTTCAACTG
SIRV2ORF114R	TTAGTCTACAATTATCTCAAAAAATTG
SIRV2ORF1070R	TTAGTAAGCACTTCTTAATTGCC
SIRV2ORF564R	TCACGCGACATAAATTGTAGTTAATTG
SIRV2ORF309R	TTATTGACAATTATTATTTATTATTTGTG
SIRV2ORF158aR	CTATAACTTGCAAAATACAAATTCTC
SIRV2ORF269R	TCATGACTGAACTACCTCAAATAAC
SIRV2ORF269R-TRUNC	TCAAGCATTTATTCCAGTTTTTTGTAATTGTG
SIRV2ORF176R	TTATTTCTCCATTGGAGTTTTTAC
SIRV2ORF356R	TTAGTTAGTATATTTTTCTACTAC
SIRV2ORF94R	TTAACTAGATCTCCAAAAATCGATTTC
SIRV2ORF95R	TTATCTCTTTTCACGAAATAAATC
SIRV2ORF112R	TTAACTTTCTAAAACAGATTTAACTTG
SIRV2ORF249R	TTAATCATTTCCTGACCGTCTTGG
SIRV2ORF98R	TTATTTAGCTTGCGTATTTGGATTTTG
SIRV2ORF73R	TCACAATTTTTTAGTACGCAATATTTG
SIRV2ORF108R	TTATCTTGGATATCTAATTAATTG
SIRV2ORF105bR	TTATGAATTTGAAGTAATTGATTTTTCTAG
SIRV2ORF119bR	TTAAATATTGTCTTCTTCATCTTC
SIRV2ORF83bR	CTAACAACTCTCCAAATATCTC

Table S2 SIRV2 gene expression during the infection of *S.islandicus* LAL14/1.

gp number	GenBank accesion number	Name	t0	t1	t2	t3	t5	t7	t9
1	NP_666535.1	ORF83a	6062	234957	114130	102725	124763	122335	145288
2	NP_666536.1	ORF119a	1844	18097	18415	11469	10876	10111	15075
3	NP_666537.1	ORF103a	1579	55032	31152	22256	19755	17921	21598
4	NP_666538.1	ORF90	4	507	1158	1205	1289	1441	2145
5	NP_666539.1	ORF109	426	7488	6345	4976	5411	5708	7832
6	NP_666540.1	ORF116	7	1094	1521	1460	1339	1125	1256
7	NP_666541.1	ORF131a	1318	20975	17605	11782	10816	9846	13568
8	NP_666542.1	ORF103b	881	11264	6907	4864	4417	4423	5649
9	NP_666543.1	ORF111	15	1415	1126	644	457	460	708
10	NP_666544.1	ORF105a	105	28146	30401	24217	16604	14208	14841
11	NP_666545.1	ORF62a	32	10257	14635	12437	10466	7601	8116
12	NP_666546.1	ORF102	8	1851	4317	3877	3743	3191	3673
13	NP_666547.1	ORF310	3	466	3531	5612	8494	9407	11545
14	NP_666548.1	ORF399	10	2309	20762	28828	39014	36691	37579
15	NP_666549.1	ORF56b	506	119860	176877	133456	94962	65015	74368
16	NP_666550.1	ORF119c	0	31	79	79	110	154	249
17	NP_666551.1	ORF131b	98	27559	34150	28102	18297	12604	14973
18	NP_666552.1	ORF436	19	2846	3650	2924	2843	2616	3124
19	NP_666553.1	ORF207	6	1901	2803	2604	3205	3503	4165
20	NP_666554.1	ORF84a	39	7712	5906	3390	1892	1347	1976
21	NP_666555.1	ORF59b	50	14450	10386	5819	3911	3039	4725
22	NP_666556.1	ORF91	29	6406	5422	2982	2246	1987	3207
23	NP_666557.1	ORF158b	38	7832	8260	6496	5186	4419	5761
24	NP_666558.1	ORF103c	16	2220	2019	1444	1143	1093	1468
25	NP_666559.1	ORF76	0	110	108	152	104	154	188
26	NP_666560.1	ORF134	11	1632	204021	352185	500990	494474	642358
27	NP_666561.1	ORF55	15	6298	9896	8268	8152	9753	14292
28	NP_666562.1	ORF335	8	2326	6049	6090	6034	5322	5277
29	NP_666563.1	ORF156	47	9939	15146	12438	12519	12339	16213
30	NP_666564.1	ORF64	3	215	2754	3867	5249	5859	7190
31	NP_666565.1	ORF84c	4	429	5384	7465	10196	10388	13808
32	NP_666566.1	ORF110	9	1719	30817	40884	57344	63616	82868
33	NP_666567.1	ORF488	1	43	3249	4059	5243	5220	6576
34	NP_666568.1	ORF154	28	6298	7481	5776	3848	2620	3288
35	NP_666569.1	ORF121	60	16213	35186	30426	24630	20333	23433
36	NP_666570.1	ORF69	48	13629	32895	32119	30890	26281	26026
37	NP_666571.1	ORF114	64	12965	29720	26565	30049	27729	30912
38	NP_666572.1	ORF1070	2	480	10110	14126	21404	24211	30762
39	NP_666573.1	ORF564	1	190	3791	5621	8573	9382	12388
40	NP_666574.1	ORF309	1	39	780	1259	1807	1924	2521

41	NP_666575.1	ORF158a	0	269	6945	9208	13972	15128	19898
42	NP_666576.1	ORF269	2	446	12175	14788	22518	26154	31785
43	NP_666577.1	ORF176	6	857	4217	4319	4684	4201	4379
44	NP_666578.1	ORF356	1	545	4185	4970	6543	6419	6980
45	NP_666579.1	ORF94	9	2116	2588	2237	1693	1291	1446
46	NP_666580.1	ORF95	28	6684	7016	5738	3925	2604	2470
47	NP_666581.1	ORF112	944	21650	15916	11745	10063	8770	13575
48	NP_666582.1	ORF249	1477	36410	35947	24487	22987	22802	30834
49	NP_666583.1	ORF98	35	5141	64921	94658	156902	189222	239929
50	NP_666584.1	ORF73	0	291	432	401	448	392	534
51	NP_666585.1	ORF108	332	61453	49118	30234	20815	14979	19408
52	NP_666586.1	ORF105b	840	5937	4530	2846	2818	2835	4261
53	NP_666587.1	ORF119b	1525	19554	17692	10939	10603	11636	17028
54	NP_666588.1	ORF83b	3031	117479	57065	51363	62382	61168	72644

Depicted is the absolute number of reads per kilobase of transcript (RPKM) mapping to each SIRV2 ORF. t=0-t=9, samples harvested 0 to 9 h.p.i.

Table S3

Please see separate excel file.

Table S4 Expression of CRISPR associated genes in *S.islandicus* LAL14/1 cells challenged with SIRV2 infection.

operon	gene	protein	t0C	t0I	t1C	t1I	t2C	t2I	t3C	t3I	t5C	t5I	t7C	t7I	t9C	t9I
I-A	SiL_0385	Cas6	5	139	147	1174	137	1472	143	1559	108	1764	110	1824	151	2322
	SiL_0386	Casx	633	813	985	5799	961	7399	902	7353	928	7878	888	9011	873	10969
	SiL_0387	HD	394	503	656	3530	657	4566	687	4936	576	4896	532	4976	553	5341
	SiL_0388	Cas3	459	637	761	5086	801	6188	812	6464	770	6798	745	6959	745	7364
	SiL_0389	Cas5	787	1014	1262	10618	1384	13321	1448	13718	1395	14072	1288	13157	1248	13520
	SiL_0390	Csa2	1825	2304	2926	26188	3168	28588	3221	28211	3133	28439	2896	25435	2787	21752
	SiL_0391	Csa5	1640	2365	2561	33417	2847	32729	2740	32186	2662	32562	2653	29023	2583	24348
	SiL_0392	Csa3	102	115	115	333	121	386	115	379	131	342	113	400	105	395
I-A	SiL-0993	Csa3	6	5	8	5	8	11	6	15	2	23	7	20	6	37
	SiL-0994	Cas4	14	19	17	75	12	91	16	103	14	77	15	84	14	81
	SiL-0995	Cas2	11	25	4	71	29	58	8	57	13	63	12	71	15	83
	SiL-0996	Cas1	17	20	13	62	14	70	21	84	15	84	23	85	13	85
	SiL-0997	Csa1	5	6	2	7	6	11	6	12	1	10	3	12	2	18
III-Bα	SiL_0786	Cmr3	763	738	760	406	722	414	716	386	660	379	735	363	730	321
	SiL_0787	Cmr2	669	642	738	323	705	383	703	397	742	411	723	397	699	364
	SiL_0788	Cmr6	891	766	965	398	1028	507	1046	540	1083	617	997	609	1021	560
	SiL_0789	Cmr1	765	744	884	385	940	485	966	486	989	554	948	567	881	528
	SiL_0790	Cmr5	2415	2906	2987	1446	3564	1867	3121	1760	3508	2023	3518	2225	3196	2132
	SiL_0791	Cmr4	902	941	1035	538	1194	655	1211	656	1253	775	1226	745	1107	706
	SiL_0792	-	5	0	6	6	3	18	0	24	0	20	0	50	2	43
	SiL_0793	csx	517	562	554	218	573	235	589	206	602	193	585	166	571	135
III-Bβ	SiL_0600	Cmr3	250	304	307	848	368	1089	389	1136	385	1255	370	1062	372	1063
	SiL_0601	Cmr2	192	214	251	441	275	631	281	702	303	758	276	669	294	711
	SiL_0602	Cmr6	75	100	105	217	126	325	128	298	140	375	144	331	140	409
	SiL_0603	Cmr5	557	856	898	1889	1153	2728	979	2709	1126	2770	1212	3127	1305	4383
	SiL_0604	Cmr1	131	153	186	363	223	533	247	592	244	619	230	599	238	582
	SiL_0605	Cmr4	132	171	215	399	242	665	270	688	282	714	249	654	279	713
I-D	SiL_0606	Cas3	143	154	219	1025	212	2242	216	3568	206	4878	196	5176	230	4873
	SiL_0607	Csc1	136	161	220	1226	245	2643	234	3792	242	4912	246	4849	235	4665
	SiL_0608	Csc2	1023	1219	1856	10439	2089	21157	2006	27497	2137	35689	2073	35991	1948	32103
	SiL_0609	cscA	236	297	317	3378	393	7077	378	9214	418	11656	422	11419	348	11071
I-D	SiL_0610	Csa3	36	30	50	191	44	200	40	171	49	135	53	101	28	61
	SiL_0611	Cas6	15	18	23	68	33	89	36	75	27	61	22	46	20	38
	SiL_0612	Cas1	3	6	6	49	2	64	3	61	7	61	5	65	4	71
	SiL_0613	cscB	20	19	22	156	26	161	24	188	32	173	24	178	19	192
I-A		CRISPR-1	16972	15337	15251	22509	13349	27778	13972	30632	14648	37093	15698	41785	15249	57281
I-A		CRISPR-2	4	3	5	38	2	51	6	50	1	86	7	65	6	92
III-B		CRISPR-3	1366	1167	1312	1771	1187	2323	1212	2551	1345	3249	1496	3589	1388	5249
III-B		CRISPR-4	1878	1674	1708	2246	1589	2789	1800	3278	1940	4648	2229	5725	2111	8443
I-D		CRISPR-5	1	3	2	20	1	17	1	21	2	21	0	37	4	18

Of each operon are shown the type to which the encoded CRISPR system belongs, as well as the individual gene and protein names of all genes in this operon. CRISPR numbers represent

repeat-spacer arrays. Numbers correspond with those from Fig.5. C, uninfected control samples. I, SIRV2 infected samples. t0-t9, samples harvested 0 to 9 h.p.i.

Table S5 Predicted toxin and antitoxin genes in the *S.islandicus* LAL14/1 genome.

Toxin-antitoxin genes					
Family II: VapBC like					
gene	**arCOG**	**control**	**infected**	**FC**	
SiL_2040	arCOG00713	211	943	4,5	toxin
SiL_2041	arCOG00815	2423	5096	2,1	antitoxin
SiL_2042	arCOG07235	298	334	1,1	antitoxin
SiL_2043	arCOG00727	34	45	1,3	toxin
SiL_2080	arCOG00820	122	148	1,2	antitoxin
SiL_2081	arCOG06028	300	412	1,4	toxin
SiL_2134	arCOG00815	2615	8314	3,2	antitoxin
SiL_2135	arCOG02730	1310	4746	3,6	toxin
SiL_2176	arCOG00729	153	104	0,7	toxin
SiL_2177	arCOG02218	636	361	0,6	antitoxin
SiL_2253	arCOG02731	173	543	3,1	toxin
SiL_2254	arCOG00824	204	626	3,1	antitoxin
SiL_2575	arCOG02222	26	87	3,3	toxin
SiL_2576	arCOG00818	3	12	3,5	antitoxin
SiL_0190	arCOG03845	10	40	4,2	antitoxin
SiL_0382	arCOG00818	85	229	2,7	antitoxin
SiL_0383	arCOG02221	42	159	3,8	toxin
SiL_0359	arCOG02219	352	269	0,8	toxin
SiL_0360	arCOG08550	294	188	0,6	antitoxin
SiL_0413	arCOG02681	288	676	2,3	antitoxin
SiL_0414	arCOG02219	45	135	3,0	toxin
SiL_0431	arCOG00726	480	2403	5,0	toxin
SiL_0432	arCOG02217	448	2325	5,2	antitoxin
SiL_0619	arCOG00729	16	60	3,9	toxin
SiL_0620	arCOG02218	129	555	4,3	antitoxin
SiL_0631	arCOG00727	52	92	1,8	toxin
SiL_0632	arCOG02217	109	235	2,1	antitoxin
SiL_0634	arCOG00815	140	216	1,5	antitoxin
SiL_0635	arCOG02730	51	73	1,4	toxin
SiL_0734	arCOG07589	363	1285	3,5	toxin
SiL_0735	arCOG08216	1333	3607	2,7	antitoxin
SiL_0914	arCOG05414	568	3151	5,5	antitoxin
SiL_0915	arCOG03706	491	3091	6,3	toxin
Family II: HEPN-NT					
SiL_0103	arCOG01191	292	603	2,1	antitoxin
SiL_0487	arCOG01203	198	251	1,3	toxin
SiL_0488	arCOG01192	63	134	2,1	antitoxin
SiL_0497	arCOG03707	40	88	2,2	antitoxin
SiL_0628	arCOG02106	27	97	3,6	toxin
SiL_0629	arCOG02109	25	94	3,7	antitoxin
SiL_0651	arCOG03721	276	520	1,9	antitoxin
SiL_0772	arCOG03721	601	2013	3,3	antitoxin
SiL_0781	arCOG03712	26	107	4,1	antitoxin
SiL_0782	arCOG01197	165	246	1,5	toxin
SiL_0783	arCOG01191	90	139	1,6	antitoxin
SiL_0784	arCOG03712	31	87	2,8	antitoxin
SiL_0795	arCOG03712	523	590	1,1	antitoxin
SiL_0798	arCOG03721	330	343	1,0	antitoxin
SiL_0885	arCOG03721	93	83	0,9	antitoxin
SiL_0925	arCOG01197	709	731	1,0	toxin
SiL_0926	arCOG01191	121	101	0,8	antitoxin
SiL_0927	arCOG01192	8	42	5,1	antitoxin
SiL_0944	arCOG01191	255	293	1,1	antitoxin
SiL_0945	arCOG07292	146	229	1,6	toxin
SiL_0947	arCOG01204	182	249	1,4	toxin
SiL_0948	arCOG01191	80	110	1,4	antitoxin
SiL_1888	arCOG04066	361	331	0,9	toxin
SiL_1975	arCOG03721	1325	316	0,2	antitoxin
SiL_2312	arCOG03712	217	373	1,7	antitoxin
SiL_2474	arCOG03721	448	1019	2,3	antitoxin
SiL_2475	arCOG03721	867	1701	2,0	antitoxin

Of each gene the average amount of reads (given in RPKM) in uninfected control (C) and

SIRV2 infected (I) cells, and their fold change in expression (FC) is depicted. Significantly up (green) or down (red) regulated genes are colour coded in the FC column. TA pairs are show in yellow/orange.