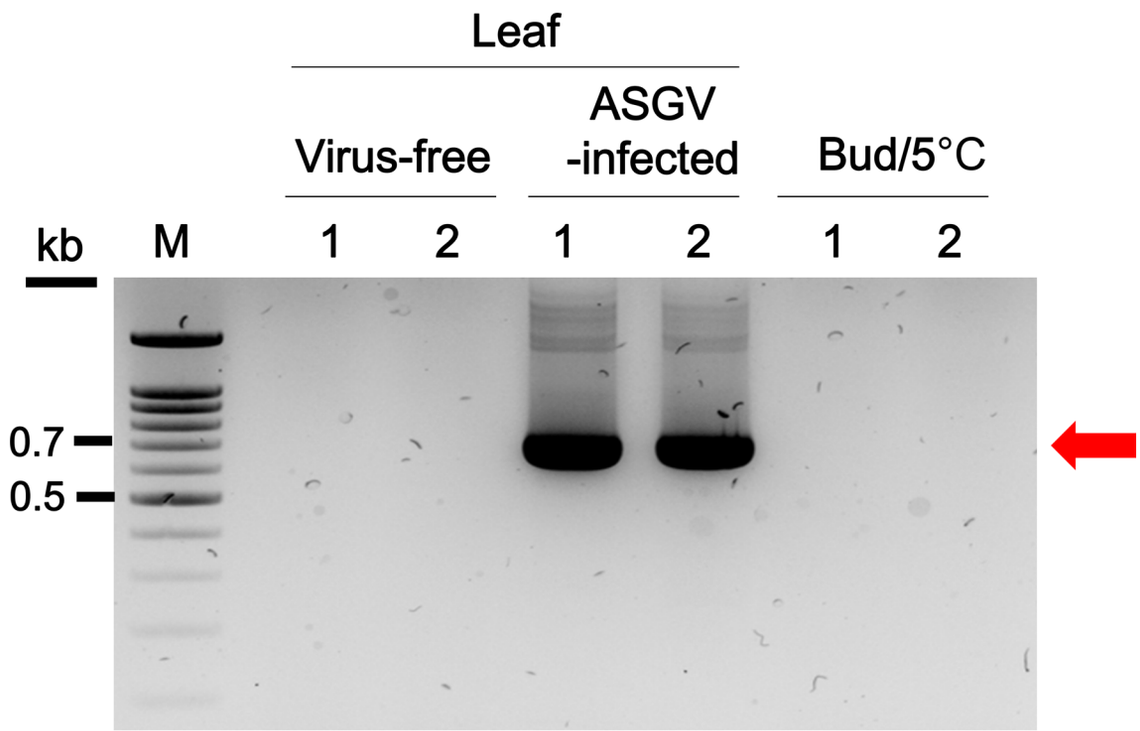
Research Article | Open Access

Supplementary Table 1. BestKeeper analysis of data for three independent experiments combined for three viruses

		Ranking									
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Virus-free	Gene name	**PDI**	**UBC**	**EF1α**	**MDH**	**ACT**	**THFs**	**CKL**	**GAPDH**	**UBC10**	**WD40**
	geo Mean [Ct]	25.64	23.87	21.78	18.27	24.83	22.32	23.35	18.70	20.70	25.25
	Min [Ct]	25.31	23.50	21.48	17.95	24.46	21.93	23.02	18.33	20.28	22.77
	Max [Ct]	25.95	24.05	22.06	18.56	25.28	22.62	23.75	19.02	21.40	27.65
	SD [± Ct]	0.20	0.20	0.22	0.24	0.24	0.24	0.26	0.27	0.37	1.99
	Min [x-fold]	−1.26	−1.29	−1.24	−1.25	−1.29	−1.31	−1.26	−1.29	−1.34	−5.57
	Max [x-fold]	1.24	1.14	1.21	1.23	1.37	1.23	1.32	1.25	1.62	5.29
	SD [± x-fold]	1.15	1.15	1.16	1.18	1.18	1.18	1.20	1.20	1.29	3.98
ASGV-infected	Gene name	**CKL**	**GAPDH**	**UBC**	**MDH**	**ACT**	**THFs**	**WD40**	**EF1α**	**PDI**	**UBC10**
	geo Mean [Ct]	20.47	17.70	22.43	18.11	24.70	21.19	22.07	20.15	27.78	26.05
	Min [Ct]	20.39	17.55	22.06	17.27	23.97	20.29	21.06	18.34	22.43	19.66
	Max [Ct]	20.54	18.02	22.85	18.89	25.44	22.08	23.19	22.16	34.53	34.42
	SD [± Ct]	0.05	0.16	0.37	0.68	0.70	0.77	0.95	1.89	5.88	7.33
	Min [x-fold]	−1.05	−1.11	−1.29	−1.80	−1.66	−1.86	−2.01	−3.52	−40.71	−83.50
	Max [x-fold]	1.05	1.25	1.34	1.71	1.67	1.86	2.17	4.02	107.55	332.31
	SD [± x-fold]	1.04	1.12	1.29	1.6	1.62	1.70	1.93	3.7	59.08	161.04
Bud/–5°C	Gene name	**PDI**	**CKL**	**UBC**	**MDH**	**THFs**	**WD40**	**EF1α**	**UBC10**	**GAPDH**	**ACT**
	geo Mean [Ct]	23.42	21.38	22.39	17.76	22.33	22.14	21.05	20.27	17.26	24.45
	Min [Ct]	23.31	21.12	22.08	17.63	22.09	21.98	20.68	19.99	16.91	24.04
	Max [Ct]	23.55	21.54	22.64	18.17	22.60	22.44	21.25	20.68	17.65	24.82
	SD [± Ct]	0.07	0.11	0.14	0.16	0.16	0.17	0.19	0.28	0.29	0.29
	Min [x-fold]	−1.08	−1.19	−1.24	−1.10	−1.18	−1.12	−1.29	−1.21	−1.27	−1.33
	Max [x-fold]	1.09	1.12	1.19	1.32	1.20	1.23	1.15	1.33	1.31	1.29
	SD [± x-fold]	1.05	1.08	1.10	1.12	1.12	1.12	1.14	1.22	1.22	1.22
Bud/–8°C	Gene name	**THFs**	**PDI**	**UBC**	**EF1α**	**WD40**	**CKL**	**GAPDH**	**MDH**	**UBC10**	**ACT**
	geo Mean [Ct]	22.5	23.49	22.28	20.99	22.41	21.25	17.14	17.66	19.74	24.07
	Min [Ct]	22.35	23.25	22.13	20.70	22.21	21.10	16.81	17.38	19.38	23.59
	Max [Ct]	22.74	23.71	22.44	21.14	22.61	21.52	17.31	17.99	20.27	24.62
	SD [± Ct]	0.10	0.12	0.12	0.13	0.15	0.16	0.18	0.19	0.33	0.37
	Min [x-fold]	−1.11	−1.18	−1.11	−1.22	−1.15	−1.11	−1.26	−1.21	−1.28	−1.40
	Max [x-fold]	1.18	1.16	1.12	1.11	1.15	1.21	1.12	1.26	1.44	1.46
	SD [± x-fold]	1.07	1.09	1.09	1.1	1.11	1.11	1.13	1.14	1.26	1.30
Bud/–15°C	Gene name	**WD40**	**THFs**	**EF1α**	**CKL**	**PDI**	**UBC**	**GAPDH**	**MDH**	**UBC10**	**ACT**
	geo Mean [Ct]	22.42	22.38	20.97	21.30	23.56	22.38	17.45	17.63	19.90	24.07
	Min [Ct]	22.29	22.08	20.64	21.13	23.22	22.11	17.16	17.38	19.60	23.60
	Max [Ct]	22.57	22.51	21.12	21.52	23.75	22.60	17.68	17.95	20.18	24.49
	SD [± Ct]	0.10	0.12	0.13	0.15	0.16	0.17	0.20	0.21	0.21	0.30
	Min [x-fold]	−1.10	−1.23	−1.26	−1.13	−1.26	−1.21	−1.22	−1.19	−1.23	−1.38
	Max [x-fold]	1.11	1.09	1.11	1.16	1.14	1.17	1.17	1.25	1.21	1.34
	SD [± x-fold]	1.07	1.09	1.10	1.11	1.11	1.13	1.15	1.16	1.16	1.23

ASGV, Apple stem grooving virus.

Research Article | Open Access



Supplementary Fig. 1. Detection of Apple stem grooving virus (ASGV) from samples used in this study. Total RNA was extracted using Rneasy Mini-Prep Kit from virus-free apple plant leaf (virus-free), ASGV-infected apple plant leaf (ASGV-infected) or apple bud incubated at 5°C (Bud/5°C), according to manufacturer's instruction (Qiagen, Germany). A pair of primers (ASGV-Rev; 5'-TGGCGTCCTTGTAAAGCTCC-GAT-3') was used for reverse transcription polymerase chain reaction (RT-PCR) analysis for ASGV detection. Synthesized RT-PCR product was indicated as a red arrow. RT-PCR conditions and subsequent analysis procedures were described in Materials and Methods.