Supplementary Materials

Supplementary Table S1. Statistics for gene-specific qPCR primers designed for 147 organisms.

Supplementary Table S2. Primer pairs for 66 genes used for qPCR validation.

Supplementary Table S3. Primer pairs collected from previously published literatures.

Supplementary Table S4. Comparison of specificity and classification of primer pairs collected from literatures and qPrimerDB.

Supplementary Table S5. Comparison of primer pairs derived from MRPrimer and qPrimerDB.

Supplementary Figure S1. qPCR validation of 66 randomly selected genes derived from 6 organisms. The maximal relative fluorescence units (RFU) are 7000 (A) and 13000 (C) on the y-axis of amplification curves of the 66 genes. The maximal relative changes in RFU over time are 1200 (C) and 2500 (D) on the y-axis of melting curves of the 66 genes.

Supplementary Figure S2. Screenshots of search and BLAST tools in qPrimerDB. (A) Search input interface. The interface provides an organism selection checklist and keyword input interface. After selecting single or multiple organisms, users can input three types of keywords, as shown in the examples. (B) Search results are displayed in table format. From this interface, users can click the boxes next to the genes of interest and export detailed information about the primers as XLS or JSON files. (C) BLAST analysis interface. This interface is designed to search the database using query sequences in FASTA format against the coding/mRNA sequences of the target organism(s). (D) BLAST results web interface. If the BLAST results are listed in table format, detailed information about the target primer can be displayed via the hyperlink in the Subject column.

Supplementary Table S1. Statistics for gene-specific qPCR primers designed for 147 organisms.

Organism	Source	Assembly	Database version	Genome size (Mb)	Gene number	Best primer (level1)	Best primer (level2)	Best primer (level3)	Sum of best primers	Percentage of best primers	All primer (level1)	All primer (level2)	All primer (level3)	Sum of all primers	Average primer paris
Apis mellifera	Ensembl	Amel_4.5	88.45	229.1	15320	9407	3340	127	12874	84.03%	65485	294355	26228	386068	25.20
Arabidopsis halleri	Phytozome	v1.1	12.0	121	25008	15538	9108	95	24741	98.93%	57223	455371	39502	552096	22.08
Arabidopsis thaliana	TAIR	TAIR10	87.11	135.7	27416	15830	9995	170	25995	94.82%	58455	423831	38667	520953	19.00
Beta vulgaris ssp. vulgaris	Ensembl	RefBeet-1.2.2	87.2	517.4	26521	9849	11107	77	21033	79.31%	18966	349734	46870	415570	15.67
Boechera stricta	Phytozome	v1.2	12.0	196.5	27416	15768	11065	168	27001	98.49%	31688	314284	33562	379534	13.84
Bombyx mori	Ensembl	ASM15162v1	87.1	431.7	14623	11698	2043	108	13849	94.71%	59017	102483	8615	170115	11.63
Bos taurus	Ensembl	UMD3.1	88.31	2649.7	20791	12629	7192	149	19970	96.05%	30387	306893	69948	407228	19.59
Brachypodium distachyon	Ensembl	v1.0	87.12	271.9	26552	17472	8179	105	25756	97.00%	39554	295413	55501	390468	14.71
Brachypodium stacei	Phytozome	v1.1	12.0	234	29898	17418	11459	350	29227	97.76%	35780	365422	79488	480690	16.08
Brassica napus	Ensembl	AST_PRJEB504	12.0	738.4	101040	12679	70935	2959	86573	85.68%	14941	485323	129309	629573	6.23
Caenorhabditis briggsae	Ensembl	CB4	87.25	108.4	21996	12157	7303	201	19661	89.38%	30430	183965	16745	231140	10.51
Callithrix jacchus	Ensembl	C_jacchus3.2.1	88.321	2759.2	23323	12050	9407	323	21780	93.38%	26776	301349	61798	389923	16.72
Canis lupus familiaris	Ensembl	CanFam3.1	88.31	2392.7	20806	10300	8965	331	19596	94.18%	22182	379471	91133	492786	23.68
Capsella grandiflora	Phytozome	v1.1	12.0	100.5	24805	15507	9022	106	24635	99.31%	33117	290202	28034	351353	14.16
Capsella rubella	Phytozome	v1.0	12.0	134.8	26521	14722	10818	177	25717	96.97%	28789	307765	33028	369582	13.94
Carica papaya	Phytozome	ASGPBv0.4	12.0	135	27769	15469	8957	357	24783	89.25%	38727	166584	12310	217621	7.84
Cavia porcellus	Ensembl	cavPor3	88.3	2663.4	19065	12531	5814	194	18539	97.24%	35501	215727	41890	293118	15.37
Chenopodium quinoa	Phytozome	v1.0	12.0	1385	44776	14261	26803	602	41666	93.05%	20465	333661	57716	411842	9.20
Chlamydomonas reinhardtii	Ensembl	v3.1	87.1	120.4	14431	12528	995	185	13708	94.99%	80320	84681	40302	205303	14.23
Chlorocebus sabaeus	Ensembl	ChlSab1.1	88.1	2762.7	19740	10289	8775	191	19255	97.54%	21105	396919	95744	513768	26.03
Choloepus hoffmanni	Ensembl	choHof1	88.1	2060.4	14030	10565	2723	105	13393	95.46%	42045	131349	14309	187703	13.38
Cicer arietinum	LIS				28269	14322	10002	356	24680	87.30%	32811	214764	17401	264976	9.37
Ciona intestinalis	Ensembl	KH	88.3	112.2	16698	13266	2930	45	16241	97.26%	43320	137851	8413	189584	11.35
Ciona savignyi	Ensembl	CSAV 2.0	88.2	177	11832	9981	1274	40	11295	95.46%	44072	85821	4997	134890	11.40
Citrus clementina	Phytozome	v1.0	12.0	301.4	24533	14796	8946	144	23886	97.36%	31306	292844	30475	354625	14.46
Citrus sinensis	Phytozome	v1.1	12.0	319	25379	15144	9574	186	24904	98.13%	32537	272943	25844	331324	13.06
Cucumis melo	PLAZA	3.0			28812	15264	8856	438	24558	85.24%	37839	179555	13346	230740	8.01
Cucumis sativus	Phytozome	v1.0	12.0	203	21503	14096	6721	92	20909	97.24%	33502	254571	21985	310058	14.42
Cyanidioschyzon merolae	Ensembl	ASM9120v1	87.1	16.7	5042	4686	122	18	4826	95.72%	46052	24333	4652	75037	14.88
Danaus plexippus	Ensembl	DanPle_1.0	87.1	272.9	16317	12274	2976	166	15416	94.48%	54996	122903	10480	188379	11.54
Danio rerio	Ensembl	GRCz10	88.1	1464.4	26190	10638	14152	262	25052	95.65%	18638	437888	102715	559241	21.35
Dasypus novemcinctus	Ensembl	Dasnov3.0	88.3		24211	10855	11827	429	23111	95.46%	22247	388558	94645	505450	20.88
Daucus carota	Phytozome	v2.0	12.0	421	32113	16346	12997	301	29644	92.31%	33827	274856	26529	335212	10.44
Dipodomys ordii	Ensembl	dipOrd1	88.1	1845	16808	12377	3832	136	16345	97.25%	42068	186725	31415	260208	15.48
Drosophila ananassae	Ensembl	dana_caf1	87.1	213.9	15234	12136	2107	178	14421	94.66%	61232	133104	25384	219720	14.42
Drosophila erecta	Ensembl	dere_caf1	87.1	145.1	15046	11895	2192	170	14257	94.76%	61276	132871	24278	218425	14.52

Drosophila grimshawi	Ensembl	dgri_caf1	87.1	186.1	14983	11052	2416	239	13707	91.48%	49704	124692	27318	201714	13.46
Drosophila melanogaster	Ensembl	BDGP6	88.6	142.6	14175	11459	2065	46	13570	95.73%	50178	214375	34696	299249	21.11
Drosophila mojavensis	Ensembl	dmoj_caf1	87.1	180.2	14597	11737	1971	199	13907	95.27%	58027	125475	26949	210451	14.42
Echinops telfairi	Ensembl	TENREC	88.1	2111.6	20399	14191	4841	273	19305	94.64%	51303	171450	29300	252053	12.36
Equus caballus	Ensembl	EquCab2.0	88.2	2428.8	24849	12979	9149	509	22637	91.10%	32765	261381	51208	345354	13.90
Erinaceus europaeus	Ensembl	eriEur1	88.1	2133.1	15992	11755	3416	145	15316	95.77%	43418	157832	23720	224970	14.07
Eucalyptus grandis	Phytozome		12.0	691	36349	16947	17654	402	35003	96.30%	29972	352847	57186	440005	12.11
Eutrema salsugineum	Phytozome		12.0	243.1	26351	15439	10141	163	25743	97.69%	32277	284269	30712	347258	13.18
Felis catus	Ensembl	Felis_catus_6.2	88.62	2365.7	20035	11244	8133	213	19590	97.78%	27059	336208	71297	434564	21.69
Fragaria vesca	Phytozome	v1.1	12.0	240	32831	15890	15444	455	31789	96.83%	30997	284396	34980	350373	10.67
Gadus morhua	Ensembl	gadMor1	88.1	608	20613	15811	3915	250	19976	96.91%	58758	168007	53345	280110	13.59
Gallus gallus	Ensembl	Gallus_gallus-5.0	88.5	1285.6	18389	10430	6067	230	16727	90.96%	25013	269830	55208	350051	19.04
Gasterosteus aculeatus	Ensembl	BROAD S1	88.1	446.6	20839	15540	4576	132	20248	97.16%	49034	247983	57440	354457	17.01
Glycine max	Ensembl	V1.0	87.1	973.3	54174	14323	37418	555	52296	96.53%	18715	545054	125411	689180	12.72
Gossypium raimondii	Phytozome	v2.1	12.0	761.4	37505	15988	20410	265	36663	97.75%	25208	476630	68390	570228	15.20
Heliconius melpomene	Ensembl	Hmel1	88.1	269.6	13637	10530	1808	35	12373	90.73%	53168	176147	11947	241262	17.69
Homo sapiens	Ensembl	GRCh38.p10	88.38	3555	22357	11260	6057	315	17632	78.87%	54153	315861	55355	425369	19.03
Ictidomys tridecemlineatus	Ensembl	spetri2	88.2	2311.1	19232	11324	7332	182	18838	97.95%	27562	268805	53954	350321	18.22
Ixodes scapularis	Ensembl	IscaW1	87.1	1388.5	20486	15125	3453	394	18972	92.61%	64201	99695	18195	182091	8.89
Kalanchoe fedtschenkoi	Phytozome	v1.1	12.0	256	30964	15101	14979	237	30317	97.91%	26721	388097	57589	472407	15.26
Kalanchoe laxiflora	Phytozome	v1.1	12.0	422	50461	10781	34886	0	45667	90.50%	13948	277988	65099	357035	7.08
Latimeria chalumnae	Ensembl	LatCha1	88.1	2183.6	19710	9899	9505	112	19516	99.02%	18796	374130	69596	462522	23.47
Leersia perrieri	Ensembl	Lperr_V1.4	87.14	266.7	29078	15543	11864	627	28034	96.41%	33060	334107	63729	430896	14.82
Lepisosteus oculatus	Ensembl	LepOcu1	88.1	869.4	18383	10136	7939	110	18185	98.92%	21533	411851	92958	526342	28.63
Linum usitatissimum	Phytozome	v1.0	12.0	318.3	43471	17709	22841	0	40550	93.28%	28729	263031	48870	340630	7.84
Lottia gigantea	Ensembl	Lotgi1	87.1	298.9	23428	14472	5961	220	20653	88.16%	43995	208689	10977	263661	11.25
Lotus japonicus	LIS	v3.0		472	29750	13415	11534	401	25350	85.21%	25653	171550	18004	215207	7.23
Loxodonta africana	Ensembl	Loxafr3.0	88.3	3118.6	20601	13082	6773	247	20102	97.58%	36067	220997	40382	297446	14.44
Macaca mulatta	Ensembl	Mmul_8.0.1	88.801	3246.4	21385	9769	9751	0	19520	91.28%	19462	408745	103302	531509	24.85
Manihot esculenta	Phytozome	v6.1	12.0	495.48	33033	14763	15969	0	30732	93.03%	25084	390253	55113	470450	14.24
Marchantia polymorpha	Phytozome	v3.1	12.0	225.8	19287	11995	6624	0	18619	96.54%	27375	341568	55249	424192	21.99
Medicago truncatula	Ensembl	MedtrA17_4.0	87.2	412.8	50633	16632	27592	0	44224	87.34%	28184	455662	59918	543764	10.74
Megaselia scalaris	Ensembl	Msca1	87.1	304.5	11482	8497	2183	0	10680	93.02%	32869	42840	1469	77178	6.72
Meleagris gallopavo	Ensembl	Turkey_2.01	88.21	935.9	14247	9744	4195	0	13939	97.84%	26690	195393	29736	251819	17.68
Melitaea cinxia	Ensembl	MelCinx1.0	87.1	361	16639	12676	3400	0	16076	96.62%	51780	163965	9775	225520	13.55
Microcebus murinus	Ensembl	Mmur_2.0	88.20	2378	18311	10241	7107	0	17348	94.74%	23629	354780	84861	463270	25.30
Micromonas sp. RCC299	Phytozome	v3.0	12.0		10103	9122	688	0	9810	97.10%	54579	59786	24874	139239	13.78
Micromonas pusilla CCMP1545	Phytozome	CCMP1545 v3.0	12.0	22	10660	8977	1106	0	10083	94.59%	44829	49409	27578	121816	11.43
Mimulus guttatus	Phytozome	v2.0	12.0	312.7	28140	16442	10471	0	26913	95.64%	35095	311068	39220	385383	13.70
Mnemiopsis leidyi	Ensembl	MneLei_Aug2011	87.1	150.4	17261	11244	4570	0	15814	91.62%	33076	214063	16096	263235	15.25
Monodelphis domestica	Ensembl	monDom5	88.5	3501.7	22049	8730	11661	0	20391	92.48%	15471	433538	99450	548459	24.87
Mus musculus	Ensembl	GRCm38.p5	88.38	3482.4	22233	12938	6876	266	20080	90.32%	58920	377031	66764	502715	22.61

Musa acuminata	Ensembl	MA1	87.1	390.6	36525	17453	13414	0	30867	84.51%	33691	307032	46610	387333	10.60
Myotis lucifugus	Ensembl	Myoluc2.0	88.2	1966.4	21441	12711	7207	0	19918	92.90%	35548	216200	43642	295390	13.78
Nasonia vitripennis	Ensembl	Nvit_2.1	88.2	239.6	19230	13310	4670	161	18141	94.34%	44821	197402	23654	265877	13.83
Nomascus leucogenys	Ensembl	Nleu1.0	88.1	2756.6	19767	10157	8993	0	19150	96.88%	19726	415355	100124	535205	27.08
Octopus bimaculoides	Ensembl	PRJNA270931	87.1	1984.3	33609	13690	14824	0	28514	84.84%	28892	374850	47000	450742	13.41
Oreochromis niloticus	Ensembl	Orenil1.0	88.1	815.7	21462	10303	10821	100	21224	98.89%	19246	442809	109863	571918	26.65
Ornithorhynchus anatinus	Ensembl	OANA5	88.1	1917.7	22245	12283	8375	0	20658	92.87%	34663	259545	50956	345164	15.52
Oropetium thomaeum	Phytozome		12.0	250	28446	16377	8144	0	24521	86.20%	46441	195950	30760	273151	9.60
Oryctolagus cuniculus	Ensembl	OryCun2.0	88.2	2604	20294	10951	7899	0	18850	92.88%	27175	338181	84147	449503	22.15
Oryza barthii	Ensembl	O.barthii_v1	87.3	308.3	34575	16911	14579	1131	32621	94.35%	36110	306590	60325	403025	11.66
Oryza brachyantha	Ensembl	Oryza_brachyant	87.14	260.8	32038	16101	11886	906	28893	90.18%	35766	275767	46436	357969	11.17
Oryza glaberrima	Ensembl	AGI1.1	87.2	316.4	33164	17136	10678	779	28593	86.22%	41655	207787	38725	288167	8.69
Oryza sativa Indica	Ensembl	ASM465v1	88.2	411.7	40745	19587	16928	1333	37848	92.89%	41665	277525	59239	378429	9.29
Oryza sativa Japonica	Ensembl	ASM465v1	87.2	411.7	35679	17705	15443	525	33673	94.38%	33203	330383	66723	430309	12.06
Ostreococcus lucimarinus	Ensembl	ASM9206v1	87.1	13.2	7640	6402	514	0	6916	90.52%	41872	33044	8843	83759	10.96
Otolemur garnettii	Ensembl	OtoGar3	88.3	2359.2	20809	12733	7237	0	19970	95.97%	32719	252789	48395	333903	16.05
Ovis aries	Ensembl	Oar_v3.1	88.31	2534.3	21211	11594	8385	0	19979	94.19%	27763	306699	68970	403432	19.02
Pan troglodytes	Ensembl	CHIMP2.1.4	88.214	2995.9	19331	10467	8158	140	18765	97.07%	21580	383034	87744	492358	25.47
Panicum hallii	Phytozome	v2.0	12.0	554	37232	17605	16946	620	35171	94.46%	32316	415703	100124	548143	14.72
Papio anubis	Ensembl	PapAnu2.0	88.2	2893.3	19930	10955	8151	205	19311	96.89%	25042	336992	79630	441664	22.16
Pediculus humanus	Ensembl	PhumU2	87.2	108.4	10787	8770	1623	36	10429	96.68%	42753	112811	7474	163038	15.11
Pelodiscus sinensis	Ensembl	PelSin_1.0	88.1	2106.6	18286	8734	8714	169	17617	96.34%	16466	364094	77950	458510	25.07
Petromyzon marinus	Ensembl	Pmarinus_7.0	88.7	647.4	10462	8865	878	96	9839	94.05%	52663	56149	12197	121009	11.57
Phaseolus vulgaris	Phytozome	v2.1	12.0	537.2	27197	14061	12519	142	26722	98.25%	26181	357888	45705	429774	15.80
Physcomitrella patens	Ensembl	ASM242v1	87.11	480	32273	16269	11841	479	28589	88.58%	36528	329491	41199	407218	12.62
Poecilia formosa	Ensembl	Poecilia_formosa	88.512	714.2	23675	10016	12726	204	22946	96.92%	17277	497083	140537	654897	27.66
Pongo abelii	Ensembl	PPYG2	88.1	3109.3	21447	10394	9527	290	20211	94.24%	21016	388152	94056	503224	23.46
Populus deltoides	Phytozome	WV94 v2.1	12.0	446.8	44853	14290	23639	801	38730	86.35%	21962	409962	66749	498673	11.12
Populus trichocarpa	Ensembl	JGI2.0	87.2	417.1	41377	16294	22762	550	39606	95.72%	25739	387039	58071	470849	11.38
Procavia capensis	Ensembl	proCap1	88.1	2407.9	17177	13043	3639	126	16808	97.85%	45094	190713	32281	268088	15.61
Prunus persica	Ensembl	Prupe1_0	89.1	224.6	28108	14626	11140	266	26032	92.61%	30378	271538	30839	332755	11.84
Pteropus vampyrus	Ensembl	pteVam1	88.1	1839.4	18023	12809	4625	142	17576	97.52%	40358	213319	38507	292184	16.21
Rattus norvegicus	Ensembl	Rnor_6.0	88.6	3042.3	23845	11525	9661	344	21530	90.29%	24302	372254	85774	482330	20.23
Rhodnius prolixus	Ensembl	RproC1	87.1	561.5	16506	11334	2407	72	13813	83.68%	47478	104595	4514	156587	9.49
Saccharomyces cerevisiae	Ensembl	R64-1-1	88.4	12.2	6713	5425	491	17	5933	88.38%	37460	43733	1090	82283	12.26
Salix purpurea	Phytozome	v1.0	12.0	392	37865	13530	19084	614	33228	87.75%	21625	366834	56595	445054	11.75
Sarcophilus harrisii	Ensembl	Devil_ref v7.0	88.7	2931.6	18966	10144	8383	153	18680	98.49%	21312	321064	56273	398649	21.02
Sarcoptes scabiei	Ensembl	SscaA1	87.1	56.3	10657	7882	2193	74	10149	95.23%	31359	80596	5324	117279	11.00
Selaginella moellendorffii	Ensembl	v1.0	87.1	212.6	34865	12405	13887	1091	27383	78.54%	22108	93772	22313	138193	3.96
Setaria italica	Ensembl	JGIv2.0	87.21	405.7	35471	19718	14039	447	34204	96.43%	40218	325029	67284	432531	12.19
Setaria viridis	Phytozome	v1.1	12.0	394.9	35214	17878	16103	426	34407	97.71%	32605	435126	103427	571158	16.22
Sida fallax	Phytozome		12.0		26939	10874	15111	292	26277	97.54%	17231	416858	96507	530596	19.70

Solanum lycopersicum	Ensembl	SL2.50	87.250	737.6	33886	16016	14392	372	30780	90.83%	31284	308268	29330	368882	10.89
Solanum tuberosum	Ensembl	SolTub_3.0	87.4	727.4	39353	17057	20080	491	37628	95.62%	30060	339655	36565	406280	10.32
Solenopsis invicta	Ensembl	Si_gnG	87.1	354.7	14922	11010	3616	61	14687	98.43%	38114	245058	30416	313588	21.02
Sorghum bicolor	Ensembl	Sorbi1	87.14	738.5	34496	18939	12381	651	31971	92.68%	40650	302510	62084	405244	11.75
Spirodela polyrhiza	Phytozome	v2	12.0	158	19623	13992	4600	342	18934	96.49%	48262	130900	24065	203227	10.36
Strongylocentrotus purpuratus	Ensembl	Spur_3.1	87.3	816	40772	11644	14749	380	26773	65.67%	21494	324400	46931	392825	9.63
Strongyloides ratti	Ensembl	S_ratti_ED321_v	87.250	43.2	12449	9505	2133	44	11682	93.84%	35857	86419	4398	126674	10.18
Sus scrofa	Ensembl	Sscrofa10.2	88.102	3024.7	22198	11586	8347	299	20232	91.14%	27078	302217	67647	396942	17.88
Taeniopygia guttata	Ensembl	taeGut3.2.4	88.1	1222.9	17894	9939	5299	0	15238	85.16%	27315	174054	29571	230940	12.91
Takifugu rubripes	Ensembl	FUGU 4.0	88.4	393.3	18685	13519	4381	0	17900	95.80%	42955	218639	44874	306468	16.40
Carlito syrichta	Ensembl	tarSyr1	88.1	2768.6	14865	10888	3271	0	14159	95.25%	38545	158433	19628	216606	14.57
Tetranychus urticae	Ensembl	ASM23943v1	87.1	89.6	18020	11494	4153	0	15647	86.83%	37087	166861	10276	214224	11.89
Thellungiella parvula	PLAZA	3.0	3.0		25691	16021	9084	171	25276	98.38%	37789	232147	21643	291579	11.35
Tribolium castaneum	Ensembl	Tcas5.2	88.5	152.4	16741	11830	3597	166	15593	93.14%	44210	148745	14911	207866	12.42
Triticum urartu	Ensembl	ASM34745v1	87.1	3009	34977	18450	12405	755	31610	90.37%	43380	244927	40632	328939	9.40
Tupaia belangeri	Ensembl	tupBel1	88.1	2137.2	17784	12631	3874	216	16721	94.02%	47153	161593	24112	232858	13.09
Tursiops truncatus	Ensembl	turTru1	88.1	2298.5	17475	12552	4379	141	17072	97.69%	39719	208509	39356	287584	16.46
Vicugna pacos	Ensembl	vicPac1	88.1	1923	12663	9933	2256	0	12189	96.26%	40016	129073	14310	183399	14.48
Vigna angularis	LIS	Va3.0			26857	14318	10509	275	25102	93.47%	31858	234398	21958	288214	10.73
Vigna radiata	LIS				22368	13506	8091	163	21760	97.28%	31935	214322	18557	264814	11.84
Vitis vinifera	Ensembl	IGGP_12x	87.3	486.2	29971	14333	12751	359	27443	91.57%	27510	282367	34360	344237	11.49
Volvox carteri	Phytozome	v2.1	12.0		14247	12918	1056	65	14039	98.54%	79989	261557	87086	428632	30.09
Xenopus tropicalis	Ensembl	JGI 4.2	88.42	1358.3	18615	10951	6973	84	18008	96.74%	24073	286554	40985	351612	18.89
Xiphophorus maculatus	Ensembl	Xipmac4.4.2	88.1	652.8	20407	10523	9509	141	20173	98.85%	20667	424328	102997	547992	26.85
Zea mays	Ensembl	AGPv4	87.7	2104.4	63480	17914	31891	1562	51367	80.92%	28688	441858	110699	581245	9.16
Zootermopsis nevadensis	Ensembl	ZooNev1.0	87.1	464.3	14610	9805	3393	0	13198	90.34%	34933	129663	10001	174597	11.95
Zostera marina	Phytozome	v2.2	12.0		20450	13576	5321	132	19029	93.05%	35968	215356	16615	267939	13.10
Total					3598514	1899842	1397989	36864	3334695	93.44%	5212329	39038395	6841061	51091785	15.09

Supplementary Table S2. Primer pairs for 66 genes used for qPCR validation.

primer ID	Gene ID	Primer level	Forward primer sequence (5'-3')	Reverse primer sequence (5'-3')	Primer pair coverage	Amplicon size	Amplicon GC content	Tm of forward primer	Tm of reverse primer	ΔG of forward primer	ΔG of reverse primer	Number of exons spanned
A.thaliana.000923v1	AT1G10000	l1	CATGATTTTCTCTGCTACGTGG	TTTGAGTCCGATAACACAAGGA	100	230	53.91	58.05	57.98	-22.16	-21.8	1
A.thaliana.001937v1	AT1G20000	l2	CCAAAAACATAACTGGTGCTGA	CAACGATGTTCATAGTGTCGTC	100	192	40.62	58	58.08	-21.92	-22.35	1
A.thaliana.003823v1	AT1G50000	l2	ATCCAGCGGACTATTAATCGTT	GAGTCAGACCACATCACTAGAG	100	165	52.73	57.99	57.95	-21.84	-21.96	2
A.thaliana.007887v1	AT2G20000	l1	ATTCTATAATACGCCTTCGCCA	GGACTTTGGAGAACTGTCAGTA	100	127	48.03	58.06	57.99	-21.9	-21.84	2
A.thaliana.009930v1	AT2G40000	l1	TAACGAGATGAGTCGGTGTAAG	CGTATGGATTATCCTTGAGGCT	100	128	48.44	57.97	58.05	-22.04	-21.84	1
A.thaliana.011674v1	AT3G10000	l1	AAAACCATCCACAGTACGGTAT	TGTATTCCACGTGGCAATAAAC	100	145	46.21	58.03	57.89	-21.76	-21.96	1
A.thaliana.012747v1	AT3G20000	l1	GACAATTTTGAGGGTTTACGCT	ATTGGCACCAAACTCATAATGG	100	156	43.59	58.08	57.85	-22.04	-21.74	2
A.thaliana.014538v1	AT3G50000	l1	TTACTGGTATCAGGTTCGATCG	GGTATAAACACGAGCTTTCGAC	100	92	47.83	58.02	58.07	-22	-22.3	1
A.thaliana.017769v1	AT4G20000	l1	AGTGGTTACAACACTATGAGCA	AATTGCTAGGGTTTGCGTTTAG	100	192	50	57.98	58.15	-21.77	-22.07	1
A.thaliana.018814v1	AT4G30000	l1	CTTTCAACTCTGAGGTTGCTTC	CTTGCAGACATCATCATACTGC	100	197	42.64	58.1	58.11	-22.12	-22.17	1
A.thaliana.019845v1	AT4G40000	l1	CACCTGGAATGAAGGTATCGTA	AAGAAAACAACAGGGTAAAGGC	100	114	41.23	57.92	57.92	-21.81	-21.81	1
A.thaliana.021722v1	AT5G20000	l2	CTTGACCAGCAAATCAAGGAAA	TGCCATCACAAAAAGTTCTCTG	100	255	45.88	58	58.01	-21.89	-21.96	3
A.thaliana.022983v1	AT5G40000	l1	AAGTCAGAGACGAGTACAAAGG	CCAAAAACCCATTGCGTACTTA	100	217	38.25	58.08	58.08	-22	-22	1
A.thaliana.024045v1	AT5G50000	l2	TGTTCACCGAGATGTAAAGACA	CGCATTTTCGATTATACGGGTT	100	182	44.51	57.99	58.11	-21.87	-22.2	2
A.thaliana.025938v1	ATMG00400	l2	GCGCAGAAGTATTCTTTCACAA	ATTCTTCAGATGGATCGCTCTT	100	142	44.37	58.17	57.91	-22.21	-21.73	1
B.napus.000092v1	BnaA01g01000D	l2	GATGGGATCTGCCATTTCAATC	GATCTCGCTGACGTGTAATAGA	100	81	46.91	58.07	58.11	-21.96	-22.17	2
B.napus.001900v1	BnaA01g21000D	l2	CTCTTGGAAGCTTGCTTTTGAT	CGTAGCCAGAAAGAAGCTATCT	100	132	40.15	58.07	58.27	-21.96	-22.09	1
B.napus.002743v1	BnaA01g31000D	l1	AGATTAGATCGCTGTTCGTCAT	GTAAACGTGATGAATTGCTGGT	100	293	50.51	58.01	58.16	-21.95	-22.14	2
B.napus.003374v1	BnaA02g01000D	l2	GAAGCATCGATCAAACAGAGAC	GATTGTGAATCACGATCTCTGC	100	223	50.22	58.06	58.12	-22.23	-22.26	1
B.napus.004259v1	BnaA02g11000D	l2	GGTCAAAGTTACTTTTCCGCTT	GTACTCGTCAAAGCGTTGATAC	100	95	48.42	58.02	58.08	-22	-22.37	2
C.sinensis.001232v1	orange1.1g003100m	l1	CTGTAGTCAAAGCTAAAACCGG	AAACGTGTACCTCCAACTAGAG	100	232	44.4	57.91	58.07	-22.06	-21.96	2
C.sinensis.004464v1	orange1.1g011100m	l1	CACAAATCCCGATCCTAACTCT	CTCGAGAATTTTGGGTATGCAG	100	151	60.26	58.18	58.03	-21.92	-22.09	1
C.sinensis.004896v1	orange1.1g012100m	l1	CAACATGGATTGTACGATGTCC	TCACCTTCTGCCCAAATAGATT	100	94	42.55	58.04	58.01	-22.12	-21.64	2
C.sinensis.005651v1	orange1.1g014100m	l1	ATAAAGTATTTGCAACTCGGGC	CTCAAATTGTTCAAGCACCGTA	100	167	43.71	57.95	58.1	-21.95	-22.11	1
C.sinensis.012502v1	orange1.1g032100m	l1	AGAGCAAAAATAGGTACCCACA	ACAACGTTAGACCTACTCTGTG	100	103	42.72	57.95	58.08	-21.64	-22.03	1
C.sinensis.014071v1	orange1.1g035100m	l1	ATTCATATTCAGTGTGATGGGC	TTAGATGATTTCCTAGGGGCAC	100	93	43.01	57.13	57.89	-21.39	-21.65	1
C.sinensis.015642v1	orange1.1g037100m	l1	GAAATGGTTTAAACTCCGCGAT	GTCACCTTGTTTAATCGCTCTG	100	265	42.64	58.23	58.25	-22.19	-22.3	1
C.sinensis.018815v1	orange1.1g041100m	l1	CACTCTGAATCTATCGACACGA	CTGACTCCTCCTTCATCTGTTT	100	169	48.52	58.04	58.04	-22.12	-21.81	1
C.sinensis.021946v1	orange1.1g045100m	l1	CAAGCAATCCAATCAGCCAATA	TTGAGAAGTTGCCGTAGAATCT	100	102	42.16	57.93	58.05	-21.84	-21.87	1
C.sinensis.022738v1	orange1.1g046100m	l1	CTTTAGTCGCTCAGGGTCTAAA	GAAAGCATCAAAAACAGGCAAC	100	157	43.95	58.13	58.12	-21.99	-22.22	1
B.mori.000946v1	BGIBMGA001000-RA	l1	ATATGATTGACGAAAGCGATGC	TAAGTAGGTCGTCATCCATTGG	100	240	45.83	58.18	57.92	-22.25	-21.81	1
B.mori.001902v1	BGIBMGA002000-RA	l1	ATGTTCGAAACTTCATTAGCCG	CGGATAGGTCCTTGTCGTATAC	100	234	40.17	57.98	58.16	-22.09	-22.15	1
B.mori.002847v1	BGIBMGA003000-RA	l1	ACAAACACGTGACTCAGTTAGA	ATTGTTGATAGTTGATGCGACG	100	188	37.77	58.2	58.05	-22.05	-22.19	1
B.mori.003797v1	BGIBMGA004000-RA	l1	ACTAATTGGCAACTTCGGTCTA	GCAAAGGAACCGTCATAAAGTT	100	264	42.05	58.05	58.08	-21.83	-22.04	2
B.mori.006642v1	BGIBMGA007000-RA	l1	TGATAATGCTGAACCTAGCACA	AACAGCTTTATCGTACGTTTCG	100	256	59.77	58.11	58.01	-21.84	-22.28	2
B.mori.008553v1	BGIBMGA009000-RA	l1	CGGTTGAAATTATGGAAGGTCG	ATTATAGTGCACTGTCGGTAGC	100	185	56.76	58.3	58.6	-22.29	-22.31	1
B.mori.009505v1	BGIBMGA010000-RA	l1	CATGAAAGCTGAGCGTTACAAC	AGTAGTAGACTGCGTTTCTTGG	100	83	49.4	59.09	58.41	-22.85	-22.2	1
B.mori.012352v1	BGIBMGA013000-RA	l1	GTGAAAAATCTGAGCGACGTAA	CGTGCGGTACTAATTCTAATGC	100	95	41.05	57.93	58.2	-22.16	-22.37	1

B.mori.013300v1	BGIBMGA014000-RA	l1	CTCAACTATTCAACTTACGCCG	CGAAGCTAGCCATTAAACAGTC	100	219	48.86	58.07	58.05	-22.28	-22.18	2
O.sativa.000001v1	OS01T0100100-01	l1	AGAAATGGTGAAATGCGTGTAG	ATGTCTTGCCCAAATAGTAGCT	100	99	44.44	57.89	58.09	-21.97	-21.73	1
O.sativa.003516v1	OS01T0810000-02	l1	CGTCCTATAGGGAGTTAGAGGA	AATCTCATCCTCACGGAGTTTT	100	128	45.31	57.96	58.04	-21.69	-21.77	2
O.sativa.004796v1	OS02T0110000-01	l1	AGATTTGTCTTTGTTGGAGTGC	GATTCTTTAGAAGACGCACCAC	100	154	43.51	58.01	57.99	-21.96	-22.15	1
O.sativa.006390v1	OS02T0510000-01	l1	TTTAAGCTTATCTCGGAGGCTT	CAAGTACTCATACTGCATCCGA	100	276	48.91	57.84	58.28	-21.68	-22.12	1
O.sativa.009315v1	OS03T0210000-00	l1	GAATCCTGGAAGACGATCGAC	CTGGAACCTGAGGTACTTGG	96.6	210	67.62	58.84	57.81	-22.1	-20.84	1
O.sativa.010010v1	OS03T0310000-01	l1	ACATCATCGCCAACTACAAGTC	TTATCGGTATCAGCTCGTGATC	100	260	65	59.32	58.16	-22.71	-22.13	2
O.sativa.011464v1	OS03T0710000-02	l1	GGATCAATGCCAAGATCGTG	CACGTTCCTGTACCTCGAAG	100	257	65.37	57.52	58.59	-20.93	-21.54	2
O.sativa.014856v1	OS04T0610000-02	l1	TTTTGCATGTAACTACGTTCCG	TTGAGACAGAGTGTAAGACCAC	100	210	46.19	58.18	58	-22.26	-21.91	2
O.sativa.018284v1	OS06T0110000-01	l1	CATTTTCTCCTGGGTTACAAGC	AGCGAGCATATCAAGACGAATA	100	278	44.24	58.14	58.08	-22.04	-22.01	2
O.sativa.020188v1	OS06T0610000-01	l1	ATCGATCGAAAGTTGAAAGCTG	CATGTTGAACCTGGCGTAG	89.7	259	63.71	57.98	56.89	-22.13	-20.22	1
O.sativa.021035v1	OS07T0110000-02	l1	ATAGTTAATGTGGCTGCGGATA	AAATGCAACATCCTTAGCACAG	100	80	46.25	57.98	58.14	-21.77	-22.02	1
O.sativa.021605v1	OS07T0210000-02	l1	CAAGAGCATAAGATCAGCACAC	TGAGGAAGGAAGAAGATGTGAC	100	211	47.87	58.04	58.05	-22.14	-21.84	4
O.sativa.023633v1	OS08T0110000-02	l1	GCCCTTAATCGACTACCTCAAT	CCATCTTTTACCATTGTAGCGG	100	156	41.03	58.25	58.03	-21.98	-22.05	2
O.sativa.027250v1	OS09T0510000-01	l1	TCTGTGATTGATGGACAGTACG	CGGGGCATATACAGATAACAGA	100	81	39.51	58.47	57.79	-22.24	-21.73	1
O.sativa.030244v1	OS11T0210000-01	l1	AAACCTTGGAGATAAAAACGGC	GTGTCCACCAATAGTAAGAGCT	100	84	36.9	58.07	58.12	-21.97	-21.89	1
O.sativa.031809v1	OS12T0110000-00	l1	TGTCCTCTATCCTTGTATGGGA	CGCACGTCAAATATCCTAACAG	100	157	46.5	58.06	58.13	-21.55	-22.31	2
O.sativa.032377v1	OS12T0210000-01	l1	GCAGAAGAAAACAACCACAAAC	AAACACAGGTGATGCTTAAACC	100	85	34.12	57.73	58	-22.02	-21.91	1
D.rerio.000382v1	ENSDART00000006300.6	l1	AGTTGCTGACTTGGTTGAGATA	GGAACATGACTACCAGGTAGAG	100	195	50.26	57.97	57.93	-21.75	-21.85	2
D.rerio.003649v1	ENSDART00000053300.7	l1	CAAGAAAACATGGTCGCCATAA	TTCTGATTCCTCTACTGACACG	100	204	52.94	58.15	57.88	-22.07	-21.89	1
D.rerio.006794v1	ENSDART00000087300.6	l1	CTCTGATGTACTTTACGGACGT	GCAGTCTTTCGATCGGAATAAC	100	262	40.84	58.23	58.13	-22.18	-22.31	1
D.rerio.007382v1	ENSDART00000098300.3	l1	CACATGATGGCAACTACTTAGC	GGAGCCACTGTATCTAAGCATA	100	128	48.44	58.03	57.72	-22.09	-21.67	1
D.rerio.010261v1	ENSDART00000124300.3	l1	AAACTTTATACGCTCAAGTCGC	CGTTTTAAAATCTGGACGCTGA	100	155	48.39	57.99	58.18	-22.18	-22.23	1
D.rerio.011437v1	ENSDART00000131300.1	l1	GACTCAAACAACAGCAAAATGC	CACAACTGTTTGACAATAGGGG	100	198	32.32	58.13	58.08	-22.29	-22.01	1
D.rerio.012064v1	ENSDART00000133300.1	l1	GAGAATGATGTAAGGGAGCGTA	CTTTTGATTGAAGGACTTGCCA	100	96	47.92	58	58	-21.91	-21.89	1
D.rerio.013009v1	ENSDART00000136300.3	l1	ATCTGGGTCACGTTGAAACTAT	GTAAACTACTCCCTCATTGCCT	100	155	43.23	58.04	58.11	-21.8	-21.82	1
D.rerio.015231v1	ENSDART00000143300.2	l1	GACTGCATATGATGACCAGGTA	TCTTTTTCTTTTTGTCGACCGG	100	122	39.34	57.98	58.3	-21.82	-22.25	1
D.rerio.015585v1	ENSDART00000144300.1	l1	AAGGGTGATAAGGGTAACACAG	TTTGGTCCTGGTTCTCCTATTC	100	218	55.05	58.03	58.03	-21.73	-21.73	4

Supplementary Table S3. Primer pairs collected from previously published literatures.

Organism	Gene ID	Forward primer (5'-3')	Reverse primer (5'-3')	Reference
Arabidopsis thaliana	AT1G13300	AGGACAACATCAGAGACATCACCG	ATAAACCACCGACGACTACGA	[1]
Arabidopsis thaliana	AT1G21910	TCTATCCATCCACAACAACAACAA	TTACACGAAGACGAAGACGAGG	[1]
Arabidopsis thaliana	AT1G77640	ATAAAGGTGTGAGGATGCGAAG	GTGGTGATGTTAGGGAAGTTGAG	[1]
Arabidopsis thaliana	AT2G18370	GCCATGTGTGAGCTACTTGACC	ACTCTTAACTCCGTCGCAACAA	[1]
Arabidopsis thaliana	AT2G23780	GGCTTCACCACCATTCACATTC	CCACCCATCAAACCAATACCG	[1]
Arabidopsis thaliana	AT5G13580	TCTCTTGTTGCCCTCCCTTC	CCTCCATCTAAACCCACACCC	[1]
Arabidopsis thaliana	AT5G25160	AACGCACACAAGAGAGAGAGAAC	GGAAAGGAAGTGGAGAGAAACC	[1]
Arabidopsis thaliana	AT5G43350	ATGCTCTTCACCTTCCTTGTCC	CCAAACATCGCACTCCAAATAAC	[1]
Arabidopsis thaliana	AT1G61800	GTTGTCTCTCGCTTGTGGTTC	CGTGTCCTATCGTGTGTGCTA	[1]
Arabidopsis thaliana	AT1G66390	TGAAGCCAAGTATCAAGAGAGGA	CGGTGTTGTAGGAGGGGAAA	[1]
Arabidopsis thaliana	AT3G14200	TTGAACGAAATGGCGACTATGA	TTTGAAGTGGAGCAGGACGA	[1]
Arabidopsis thaliana	AT3G26190	GCTCGTCAAGAAAGTCACAGAA	CAATAGCCCACCCAAGACC	[1]
Arabidopsis thaliana	AT4G25000	ACGCTGGAATCACTCATCTTTG	GCCTCTGAACCGTATTTGGA	[1]
Arabidopsis thaliana	AT4G33710	TCGTCTCATTCACTCAAACTCAC	GGCACATCCAACCCACTCT	[1]
Arabidopsis thaliana	AT2G40670	CAGGAGGTTCTTGTTCGTCTTTA	ATTCTCTGCTGTTGTCACTTTGC	[1]
Arabidopsis thaliana	AT3G13920	CGTATCGGAAGAAGTGGAAGG	CAGAGCAAACACAGCAACAGA	[1]
Arabidopsis thaliana	AT3G62250	GCTTCATCTCGTCCTCCGTCTC	AACCTTCTTATGCTTGTGCTTG	[1]
Arabidopsis thaliana	AT3G57260	CTTAGCCTCACCACCAATGTTG	TCCCGTAGCATACTCCGATTTG	[2]
Arabidopsis thaliana	AT2G28390	AACTCTATGCAGCATTTGATCCACT	TGATTGCATATCTTTATCGCCATC	[3]
Arabidopsis thaliana	AT1G18610	CTCAGGTTGATGAAGCGTCT	AAAACCCACCCTATCTCCAG	[3]
Arabidopsis thaliana	AT4G26410	GAGCTGAAGTGGCTTCCATGAC	GGTCCGACATACCCATGATCC	[3]
Arabidopsis thaliana	AT4G34270	GTGAAAACTGTTGGAGAGAAGCAA	TCAACTGGATACCCTTTCGCA	[3]
Arabidopsis thaliana	AT1G13320	TAACGTGGCCAAAATGATGC	GTTCTCCACAACCGCTTGGT	[3]
Arabidopsis thaliana	AT1G56650	TCTTCTTCTTCGCCTTCATAG	ATCTTACAACACGGTTCATG	[3]
Arabidopsis thaliana	AT1G66370	TCCGATGAAGTTGATCTTG	TCATCGTGCTTCTTACTCAA	[3]
Arabidopsis thaliana	AT1G66380	GTCAAGAACTACTGGAACACC	ATATCGACTTTTTGGGCC	[3]
Arabidopsis thaliana	AT1G66390	CAAGAGAGGAAGACTTAGCAA	GATGGGTGTTCCAGTAATTT	[3]
Arabidopsis thaliana	AT5G42800	AGGCCAAAATACCCCGAA	TAAACCCCATGTCCGTCAG	[3]
Arabidopsis thaliana	AT4G22880	GTGGACAATTGGAATGGGAAGA	CCGACAGAGAGAGCCTTGA	[3]
Arabidopsis thaliana	AT4G14090	TTCCGGTGGTTGCGTTTC	TCCACATCTCCTTCCTCCCC	[3]
Arabidopsis thaliana	AT1G66400	CAAAATCAACACAACCATCACC	AAGGATCTCGGCTAATGAGT	[3]
Arabidopsis thaliana	AT5G06100	CACTCCATTGGTGGTGTGGA	TCGGCTGTGATCAAAAGGCT	[4]
Arabidopsis thaliana	AT4G36920	CGGCTCAGGATGAACCAACA	CGGCCGCTACCAATGTTGCTGCTG	[4]
Arabidopsis thaliana	AT1G01040	CGTTGTTATGCGTTTCGACCTTGC	AACGCTGCGTGAGATACATTTCCTC	[4]
Arabidopsis thaliana	AT2G27100	TGGCTATGGACCACCCGATAGAAG	CCCAGTCCTGATAGCGACCCATAA	[4]
Arabidopsis thaliana	AT1G09700	CTCTTCGCCGTGCCCTACTAACCTA	GCATACTCCTGCAACCGACTTTTGA	[4]
Arabidopsis thaliana	AT1G48410	TGGAACGGTGAATAATTGGATCTGC	TGGTTCCGGATTAAATGCCATGC	[4]
Arabidopsis thaliana	AT3G18780	GCACCCTGTTCTTCTTACCG	AACCCTCGTAGATTGGCACA	[4]
Arabidopsis thaliana	AT5G13710	TGCACAAAGATGGAAAGGAG	CGGTAACAACTGAATTGCTG	[5]
Arabidopsis thaliana	AT1G21110	CATCTCCTCCTTCTAGCACCA	TAGGAAAGGAGCAGAGGGTCT	[5]
Arabidopsis thaliana	AT1G76680	AGATCGGACCAGACCGTGTT	CGCTTTCCTCATCGGCATTA	[5]
Arabidopsis thaliana	AT5G57550	CGCGTTCCATAGACTCGAGTA	ATGGAACCCTCATCACATCGT	[5]
Arabidopsis thaliana	AT3G57540	AGGTTGCGAGGGTTCTTGAAGTTG	AATGATCGTTTGGCCGGAGGTC	[6]
Arabidopsis thaliana	AT3G25400	TCTTGCTATGGTGGGTGAAGTGG	TTTCCAATCTGGACATCCTCTTGC	[6]
Arabidopsis thaliana	AT1G23870	ACTCGCAAATGAGCCTGTAGTCG	TAGACCTTTGCTTACTCCCTGTGG	[6]
Arabidopsis thaliana	AT5G61600	AAACAGGCCCTAGAACCATCACC	ATTCGGTAAGGGCGGTTTACGC	[6]
Arabidopsis thaliana	AT3G48360	TCCCTCTCTGCAGGCAATTTAGG	CACCAGAAGCTTCCACTTGGTG	[6]
Arabidopsis thaliana	AT1G13320	CGGGCTACGAAGGGCTAT	ACCTCAATCGCGGTTTCA	[7]
Arabidopsis thaliana	AT2G28390	GCCTCAAGCCATTCCTCA	GCCTCAAGCCATTCCTCA	[7]
Arabidopsis thaliana	AT5G60390	CGGTGCCAGTGGGACGTGTT	TGGCGGCACCCTTAGCTGGA	[8]
Arabidopsis thaliana	AT1G13440	AGGCTGGGATTGCATTGAGCGA	ACACACAAACTCTCGCCGGTGT	[8]
Arabidopsis thaliana	AT3G52430	TGGGCTTGCCAGTCACCGGA	AAGACGCGGAATGACGGCGG	[8]
Arabidopsis thaliana	AT2G29350	AGCCTCTGGCTCAGGGAGCA	TGTCGCTCGCCCATTCGCAA	[8]
Arabidopsis thaliana	AT4G02380	ACGTGGTTATGCGGCCACGG	TGCTCGTAGCTCAGCCGCGT	[8]
Arabidopsis thaliana	AT2G14610	CGAAAGCTCAAGATAGCCCA	AAGGCCCACCAGAGTGTATG	[8]
Arabidopsis thaliana	AT1G74710	TATCTCCGGCAGCCGCCACT	CGGGACGACCAACGTCACTGC	[8]

Arabidopsis thaliana	AT5G44420	TGCTTTCGACGCACCGGCAA	TGCATTACTGTTTCCGCAAACCCC	[8]
Arabidopsis thaliana	AT4G17490	TCGCACCACCGAACCGAACC	GCGAATTTCCCCCACGGCCT	[8]
Arabidopsis thaliana	AT1G19180	CCGGGCAAGTGATTGTATTC	TGCGATAGTAGCGATGTTGC	[8]
Arabidopsis thaliana	AT1G74950	TCGGTTCCTTGAGAAGAGGA	GACAGGCTCGAAGTTTACCG	[8]
Arabidopsis thaliana	AT2G34600	GCTCGTTGGACGAATCAAGCAGC	TGTTGGAGGATCCGAACCGTCTG	[8]
Arabidopsis thaliana	AT3G45140	ATACCCATCGCAGAAACAGG	TGGAGCTTGCCTTTGAATCT	[8]
Arabidopsis thaliana	AT5G24770	CGGGGGCGTACTGGTTGTG	CCTCAAGTTCGAACCATTAGGCTTCA	[8]
Arabidopsis thaliana	AT1G22770	GGTCGACGGTTTATCCAATCTA	CGGACTATTCATTCCGTTCTTC	[9]
Arabidopsis thaliana	AT5G15840	CAGGGACTCACTACAACGACAATG	TCCGGCACAACACCAGTTT	[9]
Arabidopsis thaliana	AT1G65480	AGATTGGTGGAGAAGACC	CCAGTTGTAGCAGGGATA	[9]
Arabidopsis thaliana	AT1G68050	GAAGTCTTCACTGGCTATCG	GATCAACCAATGGGTGACG	[9]
Arabidopsis thaliana	AT3G12110	GTTCTTTCCCTCTACGCT	CTTACGATTTCACGCTCT	[9]
Arabidopsis thaliana	AT4G12020	CGATTTATGCCTCCGAAG	CGACTTGTTGTATCCATTC	[9]
Arabidopsis thaliana	AT4G26640	CGCCGAAACTCTGGTGGTATG	TGACGCTGCCGCTTCTCC	[9]
Arabidopsis thaliana	AT1G80840	TCACTATTGGCGTTACTCGTATG	CCTCTCGGTTATGTTGCTCTTG	[9]
Arabidopsis thaliana	AT5G28650	AACAAGATTGCGGACATACC	GCCTTCATAAGTCACAATAAGC	[9]
Arabidopsis thaliana	AT5G15130	TGTGTTAGAGCAAGATGTG	CATAGGTTGTGATTAGTATAGAC	[9]
Arabidopsis thaliana	AT1G29280	ACCAAATTCTTCAACCTTTAACG	TTGTGCCGAGATCCTTCC	[9]
Arabidopsis thaliana	AT5G64810	ATCTCATCTCCGACAAGCATC	AACCATCATCCATCACATCAATC	[9]
Arabidopsis thaliana	AT2G40750	CCGTCGCCGTCTCTGTCC	TCTCGTCTTTCTAGTGTAGCATCC	[9]
Arabidopsis thaliana	AT2G37260	CGAGATTGTAGACGCTGCTATAAG	AGAGACGGTTGCTTTGGAGAC	[9]
Arabidopsis thaliana	AT5G60390	ATGCCCCAGGACATCGTGATTTCAT	TTGGCGGCACCCTTAGCTGGATCA	[10]
Arabidopsis thaliana	AT5G09810	CTCAGCACCTTCCAACAGATGTGGA	CCAAAAAAATGAACCAAGGACCAAA	[10]
Arabidopsis thaliana	AT3G22886	GTGTAGTCAACTGTGTGCGTT	GCACAACTTGTTGCTCAGGT	[10]
Arabidopsis thaliana	AT3G04765	TTCATGCTACAATCATTAGCAGGT	AGTCGTCTTCATGTCTGTATGT	[10]
Arabidopsis thaliana	AT1G31173	GAGTTGTGGCCATTAAGAGCT	CTTCTTGTTAATGTTTGCTCTCTCCT	[10]
Arabidopsis thaliana	AT2G39885	ACGGCAACTCAGACCCAAGAG	AAGAGGAACACGATCCATTGAC	[10]
Arabidopsis thaliana	AT2G10606	AGGGTTTCGTCTGCTCTACAT	TCTGATTATGGAATCAATCACGCT	[10]
Arabidopsis thaliana	AT2G03445	CAGGCCCTTATATGGTCGAGGC	GGTGAAAAAATGGAACAGGGGAGAT	[10]
Arabidopsis thaliana	AT5G14545	TAACAAGAAGATATCAATATATCA	ACCATTTGGTAAATGAGTAAAAGCCAGCC	[10]
Arabidopsis thaliana	AT5G14565	TCGAAACTCAAACTGTAACAGTCC	ATTTGGTAAATGAATAGAAGCCACG	[10]
Arabidopsis thaliana	AT5G37026	AGATGAAGCAAGAAAGCAACA	AGGAAATTTGGATAAAAACCAAA	[10]
Arabidopsis thaliana	AT1G48420	CGGGATCCATGAGAGGACGAAGCTTGACAC	ACGCGTCGACCTAGAACATTTTCCCAACACCAT	[10]
Arabidopsis thaliana	AT5G65720	TGAGCAACAAAGGAATGGAG	ATCGGATCCGTGTTGAGACCATTGAATGTTC	[10]
Arabidopsis thaliana	AT1G08490	CATGCCATGGAAGGTGTGGCTATGAAACTC	CGGGATCCTTTGAAAGAGTTGAAGAAGCTCACAG	[10]
Arabidopsis thaliana	AT5G28030	CATGCCATGGAAGACCGCGTC	CCGGAATTCTCATTCAACTGGC	[10]
Arabidopsis thaliana	AT1G08830	AGACGAAGCAAAAACATTCAGAGA	GGCCAGAAACTGTTCCACTC	[10]
Arabidopsis thaliana	AT2G28190	CGTCTTCTCATTCCTCCTTCC	GGCATTGGCATTTATGTTTCC	[10]
Arabidopsis thaliana	AT5G37020	AGATGTTTGCTATCGAAGGGTTGTTG	CCATGGGTCATCACCAAGGAGAAG	[10]
Arabidopsis thaliana	AT3G62980	GCCTCTCTCTATCTGGCCTCTTGAC	AGGGCAGCTCTCTGGTCTCGAGTCC	[10]
Arabidopsis thaliana	AT3G26810	AGATGCTCTCCATAGCCTTTGCAGG	TGGCGGCGCATCCATTCTTGTCCCA	[10]
Arabidopsis thaliana	AT1G12820	AGCTCGAGATGCTTTCGATAGCTTTTG	TCATTCTGTTCCATCCCATTATTCTCA	[10]
Arabidopsis thaliana	AT2G22840	GATTACCTCCCATGGGAAAA	TCCTCCTAAACCATATCCTGAGT	[10]
Arabidopsis thaliana	AT5G37025	CATCTTTAGCTATCTTCCTCCCA	GTAAGAAGGTGGAGGAATCTGG	[10]
Arabidopsis thaliana	AT3G62130	CGGGATCCATGGAGGCGGGAGAGCGGCGC	ACGCGTCGACCTACAATGCAGGAAGGTTTTGAC	[10]
Arabidopsis thaliana	AT2G25790	ACGGAAGTTTGGTCAAGTGG	ATGGCCGTACATTTCAAAGC	[11]
Arabidopsis thaliana	AT3G24500	TTCGCGTTGTTCCTTTCTCT	CCGGCATCGAATTTCTTAAC	[11]
Arabidopsis thaliana	AT1G47610	GTGCGGCGGATAAGAAGATA	ACCACCGCCAAACACTTAAC	[11]
Arabidopsis thaliana	AT4G10850	TTGGTTTGGGTTCTTTACGG	CGTTGAAAACGCAACATACG	[11]
Arabidopsis thaliana	AT5G52390	GACGATGTGAAGTGCGAGAA	CAACAATGCGTCCGAAGATA	[11]
Arabidopsis thaliana	AT1G02070	GCTAGACATGGCGGTTCTTC	CCGTCTTAGGCGACGTAACT	[11]
Arabidopsis thaliana	AT2G46680	GACCGGAGATGGAGATGAAA	CTTCCTCAAACCCACCAAAA	[11]
Arabidopsis thaliana	AT4G16190	GCCGCAAGTTTTTAGGACTG	GCCGCAAGTTTTTAGGACTG	[11]
Arabidopsis thaliana	AT5G60490	TCGTTAACCGATGAGCAACA	GTTACGCCGGACGTGATATT	[11]

Arabidopsis thaliana	AT1G76110	AATCCCTCAACGAGCAAAGA	TGGGCCGAATGATAAAGAAC	[11]
Arabidopsis thaliana	AT5G55840	AAGACAGTGAAGGTGCACCTTACT	GTTTTTGAGTTGTATTTGTCAGAGAAAG	[12]
Arabidopsis thaliana	AT5G08290	TTACTGTTTCGGTTGTTCTCCATTT	CACTGAATCATGTTCGAAGCAAGT	[12]
Arabidopsis thaliana	AT1G12110	CCACATGCTATTCTGCGTTTGGACC	CATCCCTTACGATTTCACGCTCTGC	[13]
Arabidopsis thaliana	AT1G02790	CGGTCTATGATATTACTA	GCTGGTCGTAGCGATGATT	[13]
Arabidopsis thaliana	AT1G17150	CTCCGAACAACGACGACA	ATCCCATTCATGCTTGAGTT	[13]
Arabidopsis thaliana	AT1G43080	GCTATGACTATGGGATTTGC	CCGTCAGTATTTGGGCTAT	[13]
Arabidopsis thaliana	AT1G43090	CCCTCACCCACCTTGTGA	GGACCATTGAGTCAATCTAGACA	[13]
Arabidopsis thaliana	AT5G51810	AGAAACCTTCCATTGACATTCCA	AGAGATCGATGAACGGGACG	[14]
Arabidopsis thaliana	AT1G60980	CTATCCAAAATGCAAGCAACCA	CAGTGAGGCCCCGTACCTAGT	[14]
Arabidopsis thaliana	AT4G21200	CATGGAGCAATGGCATGTACA	GGTTCGTCATCACACGGTGTT	[14]
Arabidopsis thaliana	AT1G15550	GATCTCCTCTTCTCCGCTGCT	GAGGGATGTTTTCACCGGTG	[14]
Arabidopsis thaliana	AT1G66350	TCAGTGGCGGTTAACTCGGT	GGGATGAGCTAAGAGGCGATG	[14]
Arabidopsis thaliana	AT3G05120	GTGACGGTTAGAGACCGCGA	TCCCTCGGGTAAAAACGCTT	[14]
Arabidopsis thaliana	AT3G63010	TCGCCCTGACGGTTCTTTC	TTACGGTCAAGGAACTCGGC	[14]
Arabidopsis thaliana	AT1G14920	AATGAATTGATCTGTTGAACCGG	GGCTTCGGTCGGAAATCTATC	[14]
Arabidopsis thaliana	AT5G39860	CAAATTTTGCCGGAGATTGG	GGCTGATGCCTTATCAGAACG	[14]
Arabidopsis thaliana	AT3G28857	CTCCGATGACCAGATGATCGA	GGCAAAAACTGACGGAGCTT	[14]
Arabidopsis thaliana	AT5G15150	TCCCTTCTTCGATCCGATCC	CAATATGGGTAGAGGTCGTGGTC	[14]
Arabidopsis thaliana	AT1G56650	TTGGTTCCTGAAGCGACGAC	GTCAAAAGCCAAGGTGTCCC	[14]
Arabidopsis thaliana	AT5G55250	CTGCCTTCTCCTTGCATTGG	TATCCGTCACACTTTCCGGC	[14]
Arabidopsis thaliana	AT1G04610	AAGATCAAAATCGTCCCCGG	CTCAACTTTGCCTTTGCCGA	[14]
Arabidopsis thaliana	AT3G18780	CTCAGGTATCGCTGACCGTATGAG	CTTGGAGATCCACATCTGCTGGAATG	[15]
Arabidopsis thaliana	AT5G19400	TTGCTTCTTATTCGAGGGATGAGTTTG	TCTTGGATGAGTCTTTGGAGGGC	[15]
Arabidopsis thaliana	AT3G57260	ATCTTGAACGTCTCGCCTCC	CTTCAAGCCCTGCTCCAGAA	[16]
Arabidopsis thaliana	AT5G22570	ATTGGAGGGACGATTCACCG	GTGGTTCGGTAAACCGGAGG	[16]
Arabidopsis thaliana	AT2G40750	ACATGCACTGCCAATGACCA	TCCTTAACCATGCCTGCGTC	[16]
Arabidopsis thaliana	AT3G25882	GACACGAACGGTTGCGAAAG	AACCCAAACCCTGTAACCCG	[16]
Arabidopsis thaliana	AT4G23810	TTTGCCGATGGAGGAGGTTC	TCTAAGCCTCTCTCTGGGCT	[16]
Arabidopsis thaliana	AT1G02450	AAGCACGGAAACGTAGACGA	GGCTTCAAACCCGTACGACA	[16]
Arabidopsis thaliana	AT3G20600	TGAAGACACAGAAGGTGGTCG	GTCTTTTCCGAGGGCAGGAA	[16]
Arabidopsis thaliana	AT1G75040	CTCGGCGATGGAGGATTTGA	AATTCAGCCAGAGTGACGGG	[16]
Arabidopsis thaliana	AT4G35985	ATGGAATGCTCTGCAACTCCTCCCAAGCTT	GCAAGCGAGCTCTACGCTGTAGGATTTGTC	[17]
Arabidopsis thaliana	AT4G35987	ATGGATCCCACTTCTTCTTCTTCCTCTGCT	CTCGAAGTCATTGAGATCACTACAATTAT	[17]
Arabidopsis thaliana	AT3G45640	TGACGTTTGACCCCAACAGA	CTGTTCCTCATCCAGAGGCTG	[18]
Arabidopsis thaliana	AT2G43790	CCGACAGTGCATCCTTTAGCT	TGGGCCAATGCGTCTAAAAC	[18]
Arabidopsis thaliana	AT2G14610	TCGGAGCTACGCAGAACAACT	TCTCGCTAACCCACATGTTCA	[18]
Arabidopsis thaliana	AT2G44050	TTGGAAGGAGCGATTGAGACT	CAAGATTTTGTGCAACAACACC	[18]
Arabidopsis thaliana	AT2G22450	TGAAAGGCGAAGACTTGGAGA	CGAGCTGAGACACCTGTGGAT	[18]
Arabidopsis thaliana	AT3G18780	GGCAAGTCATCACGATTGG	CAGCTTCCATTCCCACAAAC	[18]
Arabidopsis thaliana	AT5G60850	ATTCCAAAAGAAGCTTCTCGC	CTGATGAGCTCTCATCCTTCG	[19]
Arabidopsis thaliana	AT1G69310	TTAACATCATTAAAACGTGAGACG	AGAGAGAGTCTGAGATCGGTCC	[19]
Arabidopsis thaliana	AT2G36720	TTGAATACACCATGCTCGATG	TAGGCCATATTTGTATTGCGG	[19]
Arabidopsis thaliana	AT5G24930	CTTCTCTTCCTCTTCATCGCC	CTGCTTCGTGGCTGTTACTTC	[19]
Arabidopsis thaliana	AT4G01680	CAAATGTCGTAAGCCATTAAC	GGTTACACCACAAGCTCTTAACCG	[19]
Arabidopsis thaliana	AT5G15970	CAAAACACACATCAAAAACG	TACTCTTTCCCGCCTGTTGC	[20]
Arabidopsis thaliana	AT2G42530	GGCGATGTCTTTATCAGGAG	AGGATGTTGCCGTCACTTTT	[20]
Arabidopsis thaliana	AT1G31330	AGGACTCAAAACAGTTCGCT	GTAAACCGTCTGACCCGCAT	[20]
Arabidopsis thaliana	AT1G29910	AATGAGGAAGACTGTTGCCA	CGGTGTCCCATCCGTAGTCT	[20]
Arabidopsis thaliana	AT1G29930	GCTCTCTCCTCCCCTGCCTT	ACGGTTCCTTGCGAATGTCT	[20]
Arabidopsis thaliana	AT2G34420	CGGTGACTACGGATGGGACA	CCAATCCTCCGTCGCTGAA	[20]
Arabidopsis thaliana	AT3G12500	GGCCAGACTTCCCATGAAAC	CTTGAAACAGTAGCCCCATGAA	[21]
Arabidopsis thaliana	AT3G04720	GCAAGTGTTTAAGGGTGAAGAACA	GAACATTGCTACATCCAAATCCAAG	[21]
Arabidopsis thaliana	AT2G14610	TTCTTCCCTCGAAAGCTCAA	AAGGCCCACCAGAGTGTATG	[21]
Arabidopsis thaliana	AT3G57260	AGCTTAGCCTCACCACCAATGT	CCGATTTGTCCAGCTGTGTG	[21]
Arabidopsis thaliana	AT1G75040	TGTTCATCACAAGCGGCATT	GTCCTTGACCGGCGAGAGTTAATGCCGC	[21]

Arabidopsis thaliana	AT5G20820	CCGCTCTTCCAGCAGCTA	AACTTCGCACGACACAGAGAT	[22]
Arabidopsis thaliana	AT1G06180	CCGGGCTACTTCGGTGCGGA	TGTTGTTGCGGAGAGGTTGGCA	[23]
Arabidopsis thaliana	AT1G15550	CCATTCACCTCCCACACTCT	GCCAGTGATGGTGAAACCTT	[23]
Arabidopsis thaliana	AT1G27730	TCGGCGACAACCACATCCGC	AGTGGCACCGCTTGTGTCCG	[23]
Arabidopsis thaliana	AT1G76520	GGAAGCTCCTCTCCGGGTGCT	TAACGCGCAACCAAGACGCC	[23]
Arabidopsis thaliana	AT2G01290	GCCTCTTCACCGCCTCAGCC	TCGGTCGACGGCGTGTTTGG	[23]
Arabidopsis thaliana	AT3G45140	ATCAACGCTCGTGCACGCCA	CCGCGGGTAAGCCTTCCTGG	[23]
Arabidopsis thaliana	AT4G14560	TGGAAGTCACCAATGGGCTTAACCT	TGCGCTTGTTGTTGCTTCTGACG	[23]
Arabidopsis thaliana	AT4G25470	AGACCATGAGCATCCGTCGTCATA	CGGAATCAACCTGTGCCAAGGAAA	[23]
Arabidopsis thaliana	AT5G11060	CAACACGAAAACGATGGCGTTT	CATCTGCCACCTCTCCGCCTCC	[23]
Arabidopsis thaliana	AT5G44420	CTTGTTCTCTTTGCTGCTTTCGAC	ATGCATTACTGTTTCCGCAAACC	[23]
Arabidopsis thaliana	AT5G61850	AAATGCCCCACCAAGGTGACGAAC	ACTCGCTCCTGATTTCTTCGCGTA	[23]
Arabidopsis thaliana	AT1G69120	CAGACCACCCATGTTGAGAAAA	GCACCAAATCCAGCATCCTT	[23]
Arabidopsis thaliana	AT1G47530	GCTTTGTTTGGAGTTTTGGTACTTG	CCACCCTTCTATATTCATGCAAATG	[24]
Arabidopsis thaliana	AT3G06620	TCGGACAAGGTTCATGTGGAA	ACACTTTTACAGCTACATCAGATCCAA	[24]
Arabidopsis thaliana	AT4G35800	ACAGTCCCAGCAGCCCATAC	AATCATGACCTAAAACATGGATTGC	[24]
Arabidopsis thaliana	AT5G65080	TTTTTTGCCCCCTTCGAATC	ATCTTCCGCCACCACATTGTAC	[25]
Arabidopsis thaliana	AT1G13440	TCTCGATCTCAATTTCGCAAAA	CGAAACCGTTGATTCCGATTC	[25]
Arabidopsis thaliana	AT1G13440	TTGGTGACAACAGGTCAAGCA	AAACTTGTCGCTCAATGCAATC	[25]
Arabidopsis thaliana	AT4G05320	GGCCTTGTATAATCCCTGATGAATAAG	AAAGAGATAACAGGAACGGAAACATAGT	[25]
Arabidopsis thaliana	AT2G43100	AACATGCTCCGGTCTGTCTTGG	TGCGTAAGACTCAGCAACTATGGC	[25]
Arabidopsis thaliana	AT5G60890	AGACCCGACATTAAGAGAGGAGAG	ATTGCGGCCCACTTGTTACC	[25]
Arabidopsis thaliana	AT3G19710	TCGTGATTTCGGCTACCAGGTC	AGCTTCGTCCGCATCGAGAAAG	[25]
Arabidopsis thaliana	AT4G39950	TCAAACCCACCATTAAGGAGCTTG	TTCCACGGCGTTTGATGGATTG	[25]
Arabidopsis thaliana	AT2G22330	ACCGGAAAGAGAGGATGTGCTG	CGCTAGCATCATGGTCGTTATCGC	[25]
Arabidopsis thaliana	AT1G16410	CATTATGTCCCTTCCCATCTTGCG	ACATGAATGTGGCTACCTTTGGG	[25]
Arabidopsis thaliana	AT1G16400	CCTCATGTTGCCCGTCAAGATACC	ACGCTCCGGTTCGTATGCTAATG	[25]
Arabidopsis thaliana	AT5G57220	CATCATCAAAGGGCTCATGCTCAG	AATGTTACGGCCGCAGTATCCG	[25]
Arabidopsis thaliana	AT4G13770	AAGAGAGTCAAGCCCGAAACCG	GTTCCCGCCACTACAATATCCAAG	[25]
Arabidopsis thaliana	AT4G31500	TGGATATTGTTGTGCCGGGAACTG	ACACTCCTCACTTCGTCTTGAGC	[25]
Arabidopsis thaliana	AT3G14210	GCGCCGGTTGAATCTATGACAC	TTTCTCGATGTAGCTGTCGTTCC	[25]
Arabidopsis thaliana	AT1G54040	TGAATACTCCCACGCGGTTCAG	AGCTGAGCCCATTTCCCATCAG	[25]
Arabidopsis thaliana	AT1G62540	GCCGTTGTTGTTTGCAGTGGAC	ATTTCCGATGACCACCACCACCTC	[25]
Arabidopsis thaliana	AT1G12140	CTTCATCGGTTTACCCTGGATGAC	GCCTCACGCTTTGCATAGTAGG	[25]
Arabidopsis thaliana	AT4G23100	TGTCCTGAAACTCGCAAAGGATG	CATCGACTGCGTTCAAGAAACCG	[25]
Arabidopsis thaliana	AT5G61420	AGACTGCGATGGACCAACTACC	TCTCGCTATGACCGACCACTTG	[25]
Arabidopsis thaliana	AT5G07690	AGTTGTAGATTGCGATGGGCTAAC	TGTCTCGCTATGACTGACCACTTG	[25]
Arabidopsis thaliana	AT1G18570	CCTTCACGGCAACAAATGGTCTG	TACCGGAGGTTATGCCCTTGTG	[25]
Arabidopsis thaliana	AT1G74080	GAGAGTTTAGCCAAGACGAGGAAG	CTATGGCCGACCATTTGTTGCC	[25]
Arabidopsis thaliana	AT5G23010	AAGTGGCAATGCGTCGCTTGAG	AGCCCGTGTACTCTTGAACCATC	[25]
Arabidopsis thaliana	AT5G23020	TGCTACCGCCAACACAATATCCG	ACATTTCAAAGCCATCACGACCTC	[25]
Arabidopsis thaliana	AT3G16400	TGCTTGGGAAGTGGATTAAGGTG	GGGCTGATTTGGTGTGAACTCG	[25]
Arabidopsis thaliana	AT3G16390	GCGCGATTTGATCATGACCGTTTG	CATCACACAGACACACAGACACAC	[25]
Arabidopsis thaliana	AT5G48180	TGTTTCCGGCGGTTTCTTACGG	TAAGCTCATGCGGCTCTTCCTC	[25]
Arabidopsis thaliana	AT2G44490	TGCGCATAATCCACTTTGGTACG	AGTCGGATGCTGATGCCAAC	[25]
Arabidopsis thaliana	AT1G59870	ACTGCAGATGGGAACAGAAGAGG	TTCTTATTGCCTGCACCACCTG	[25]
Arabidopsis thaliana	AT2G20610	CCGGCAAAGGCAATTCTTACGG	TCATATAATCAGCAACGGCTCGTC	[25]
Arabidopsis thaliana	AT5G26000	ATGGACTCACGCACAACTCTCAC	AGTAACTGGCTGCATTGAACGG	[25]
Arabidopsis thaliana	AT5G25980	CCGCAAGGCCATCAAGTGAAAG	AATCTGACGGTGTAGCCGTTGC	[25]
Arabidopsis thaliana	AT1G24100	ACGTTGGAAGGGTTGAGTTTGGG	TCTGATCACTCCACTGAGGCACAC	[25]
Arabidopsis thaliana	AT4G25420	CGAACGATAGATACAAGAGC	CGGACACAAGAAGAATGC	[26]
Arabidopsis thaliana	AT5G51810	GCCAGACGAAGAGAAACC	ATTGACGACGAGGAAGAAG	[26]
Arabidopsis thaliana	AT5G07200	ACATCTCTAACCATACTTCATC	ACTCTTGTATCTTCCATTCG	[26]
Arabidopsis thaliana	AT1G60980	ACTGCGACCCAACCTCTC	GCCAATGTTCACCACCAATG	[26]
Arabidopsis thaliana	AT1G15550	GCTCGTATCGCATCTTTC	ATCGCAGTAGTTGAGGTG	[26]
Arabidopsis thaliana	AT1G80340	TGGTTCGCATTAGGTTCACTG	TGGCTCTGTCTGGTTCTGG	[26]
Arabidopsis thaliana	AT1G80330	GACTCCTCCCTACTTACCATTC	GGCTCTACTCCAATCCATCTC	[26]
Arabidopsis thaliana	AT1G78440	CAAGAGCGTGAGGCATAGG	GAAGGTCCAGCGAAGTAAATC	[26]

Arabidopsis thaliana	AT1G30040	ATCTCCTCCTCAATGCTAATCC	TACTCCTCCACCGACTCAC	[26]
Arabidopsis thaliana	AT2G34555	GGAGCAAGAAGCCATCAAC	TACTCAAGCCAGCCAAGG	[26]
Arabidopsis thaliana	AT1G02400	GTAAGGCATAGAGCATTGAC	ACAACCGTGGCTGATTC	[26]
Arabidopsis thaliana	AT1G02400	TGAGCTTGAGTATCTTCTTC	TAACCGTGCGTATGTAATC	[26]
Arabidopsis thaliana	AT1G50960	TTCTTCGTATGTCCTTATCTC	ATGTTCACTCTGCTCTTTG	[26]
Arabidopsis thaliana	AT4G21200	TGGATGTGTTGGAGAAGATGAG	CGGATAGAAGTGGCTGACG	[26]
Arabidopsis thaliana	AT2G17270	TGTCTTGCTGGCTATACTG	CATTCTTGGCTTTGTTGTTG	[26]
Arabidopsis thaliana	AT3G48850	CGATTACGCCACTTGATG	GCTCTTTGATTGTTGTCTTG	[26]
Arabidopsis thaliana	AT5G14040	AAAGAGCAAGGAGTCAAAGG	CAGCAAGGTCAGAGTAAGTC	[26]
Arabidopsis thaliana	AT5G04150	CGCCTTGTACTCTTCACTTCGTGC	CTCCGAGACAAACGTTGAAGTTC	[27]
Arabidopsis thaliana	AT1G51070	AAGGACATGGTCCTGTGAGG	AAGCAAGCTTGTCCCTTTCA	[27]
Arabidopsis thaliana	AT1G21630	CACAACAGGGTTCATTGAGCCAG	AGGTGGACCAGAAGCCGCAC	[28]
Arabidopsis thaliana	AT1G64580	TTCTGATTCATTGTTTCTGCCGATG	CGTTGAGGAGAGAGCCAAGAGTGAC	[28]
Arabidopsis thaliana	AT1G68670	TCGGAAGGAGTTATCTGGTACGACG	AAGACAGGACCACCACAAACACTTG	[28]
Arabidopsis thaliana	AT1G68800	AGGCGAGCAAGACGATTGAATG	CCTTTCCTCCTCCTTCCGATGC	[28]
Arabidopsis thaliana	AT1G78240	CCATTCCCGACTTACCCGAGAAC	TCCCTCTGGACGAAGCAATCG	[28]
Arabidopsis thaliana	AT2G02860	CGCAATCGTTATTCCCCAGATG	AAGCAGCAACAGACGCCAAAAC	[28]
Arabidopsis thaliana	AT2G03710	CCTTCTCTACCCAGACAGCGTGG	CACCCCATCCAGCAACTCCC	[28]
Arabidopsis thaliana	AT2G17630	AACCCAACACCATCAACCTCACC	AATGCGGCTGGACCTGCG	[28]
Arabidopsis thaliana	AT2G27940	TTCCGCCACTTCGCAGACAG	CCTGAGAATCAAGACCCCTCCG	[28]
Arabidopsis thaliana	AT2G28600	ATGGCGAAAGGAGACGATAATGTG	ATGGCGGCGATACGAGCAG	[28]
Arabidopsis thaliana	AT2G30260	CCCAACGACCAAACACGGC	TCGGCTGGAACGAAGGCG	[28]
Arabidopsis thaliana	AT3G23430	CCAAACACAGCGTTGCGTTACC	GAGGCTCGGAGGATGAGGTGG	[28]
Arabidopsis thaliana	AT3G55580	CAGTCTGACAACATTGACCTCTCGG	GTATGACGACCACCAGCAGCAAC	[28]
Arabidopsis thaliana	AT3G57600	TGGAAGAAGGGTCCTGCTCGG	CAAGTCCTTTGCCTGACTCCACG	[28]
Arabidopsis thaliana	AT4G06746	GTTCATACAAAACCGCCGTTGC	TGAGTCTCGCCGAAGGACCAC	[28]
Arabidopsis thaliana	AT4G18720	AGCGAGACAAAGTGCGTGAGATTC	CCACAGATACAGCCACAACCCAAG	[28]
Arabidopsis thaliana	AT4G20340	AGCCGTTTGTCAAGCTGGTGAG	TCTAACCCATTGCCGCCTCG	[28]
Arabidopsis thaliana	AT4G33250	CCAGACTTCAGCCTTTGCCTCTTC	CCAGAACTGTTGGAACCTCCCAG	[28]
Arabidopsis thaliana	AT5G01840	GGAACCGTCTTCGTCACCGAG	ACCTGTTTCTGTGGTAGTGCTGTCG	[28]
Arabidopsis thaliana	AT5G15630	CGGCAGATGGCTATGTGGCTAC	TGTCCAACCTAATGTCCAACCAGG	[28]
Arabidopsis thaliana	AT5G15850	ATGCTGCCAATCGTCTTGCTTC	TGCGGAATGAATCTCTGAATCACAG	[28]
Arabidopsis thaliana	AT5G61430	CCTGCTTCTCCAACCAAACGG	AATCCTGTGAAAAATGTCGGCTTG	[28]
Arabidopsis thaliana	AT3G49120	AGTTAAGGTCGGACCCTCGT	GAGCTGCAATGGTGAGCATA	[29]
Arabidopsis thaliana	AT3G16530	GCTTTATCCATGACCCGAGA	TTGACCGGAGTTAGGTTTGG	[29]
Arabidopsis thaliana	AT4G12910	TTACGCCGGAGTTTATGTCC	TCGCACTCGAGTCCCTCTAT	[29]
Arabidopsis thaliana	AT4G37530	AAGCTACCCAAACCGACCTT	GAGGACACGACGCTTTTAGC	[29]
Arabidopsis thaliana	AT5G05340	TTACGTCGTCGAAGCACAAC	TGACAAAGCAATCGTGGAAG	[29]
Arabidopsis thaliana	AT5G06720	ACGCTGGTCCGAATGTAAAC	TTTCGATGGGAGAAGGAATG	[29]
Arabidopsis thaliana	AT5G08370	TCTCTCCTCAAATGGGATGG	TGAGTTCACCCCAACAATCA	[29]
Arabidopsis thaliana	AT1G30230	ATGTCCAGAGCTGTGACATTGTTG	CAAGCGATGAACAGAGGGGAAGGAA	[30]
Arabidopsis thaliana	AT1G30230	CGACGAGCATCTTCTCACTCGCA	ACACCAGAGATCCTCAAGAGGGCA	[30]
Arabidopsis thaliana	AT2G37040	CCGGACTTCTCACCGGTCGT	CGCCGTGCCATTGACTAGCG	[30]
Arabidopsis thaliana	AT1G51680	AGGCTTTGCTCATCGGTCATCCT	ACCTGTTTCGACACGAATTGCTTCA	[30]
Arabidopsis thaliana	AT2G30490	ACCGGGTGTGCAAGTCACCGA	AGCCAGCGAGCTTCGCATCA	[30]
Arabidopsis thaliana	AT4G36220	CCACGAAACCGCGGAGGACA	TCCGGTACGCCCGGTTCCAA	[30]
Arabidopsis thaliana	AT5G48930	GCAACATCACGCGGCAGATGG	AAAGCAGGCTGTGGCGGGTC	[30]
Arabidopsis thaliana	AT2G40890	TGTCCCGGTGCACAACTTGG	CGCTTGCACAGGGGTACG	[30]
Arabidopsis thaliana	AT1G15950	CCTCTTCCGACCAAGTGCAAGG	GGCCTTTCTCTTGTAAGCTCTTGACTG	[30]
Arabidopsis thaliana	AT5G54160	AGCGCGTTCGAGTACCACGG	AGCACCAATGCCACCACCAACA	[30]
Arabidopsis thaliana	AT4G34050	TCTCGCCACCGCTCTTGCTC	AGAGCAGGGCCTTCCCTGAAGT	[30]
Arabidopsis thaliana	AT3G19450	TCTGGTGGAGGAGGCTGCAACA	AGCCAAAGCATTCGTGTTTGAACCA	[30]
Arabidopsis thaliana	AT2G38080	CCCTTCCTCCCCCGCAAAACG	TTAGCCCAAGGCCGACGGTG	[30]
Arabidopsis thaliana	AT5G05170	TCAGAGCGGATGCTTGGTTGGC	GGCGTTCAGGTGAGGCAGCA	[30]
Arabidopsis thaliana	AT5G44030	CCTCGCCATGGAACCAAACACC	AACGCACACGTGACACGC	[30]
Arabidopsis thaliana	AT5G17420	CGGCCACAGCGGAGGATTTGA	TGTGAGTACGCCTGCCACTCG	[30]
Arabidopsis thaliana	AT4G18780	CCCATCTGCAACACTTGTGGTGAA	TCGTAAGGATTGCCGCAACGC	[30]
Arabidopsis thaliana	AT5G49720	TCGTGCGGCTCTTTCACGTCC	AACGCGGCGGCAACAAGAGT	[30]
Arabidopsis thaliana	AT4G05320	GCTCCGACACCATCGACAACG	CTGAGGACCAAGTGGAGGGTGGA	[30]

Arabidopsis thaliana	AT5G60390	AACGGTGCCAGTGGGACGTG	TGTCACCGGGAAGTGCCTCAA	[30]
Arabidopsis thaliana	AT3G13920	TCAGCCTCTTTCGGATATTCCACCA	TCCTGCCATGCTGGAGCAAAGT	[30]
Arabidopsis thaliana	AT1G27450	AGTCATTGATCACGGCTTTTGTCCA	ACGGTTGCAAGGAACAGCACGA	[30]
Arabidopsis thaliana	AT5G25760	AGTCCTGCTTGGACGCTTCAGTCT	TTGTGCCATTGAATTGAACCCTCTC	[30]
Arabidopsis thaliana	AT3G13750	CCGCCCAGCTGAAGATATGGCC	CGGACCACCAGCAGTTCGACC	[31]
Arabidopsis thaliana	AT3G44990	GGGATGCATCGGACTGGGCC	CGCTGTGCATCCCGCTAGCT	[31]
Arabidopsis thaliana	AT2G46830	TGGAGACTCATCATCGAGCTTAAA	GCTTTCAAATGCAACTTGTGTGTG	[31]
Arabidopsis thaliana	AT1G02640	ACCCACGTTGGGGACGTGGA	ACCGGCTACGGTCGTTTCCCT	[31]
Arabidopsis thaliana	AT5G21170	CTGCACGCAGTCGTCACCGT	CCACGGGAACCTGAGGAGCG	[31]
Arabidopsis thaliana	AT5G49360	TGCAGGGAAAGCATGCGCCT	TCCCTTTGCAAGCCACGCCG	[31]
Arabidopsis thaliana	AT1G12780	AGCTAGAGACATTCACGCTGCGG	CGGTATGCCCTTTGGATCTTCTCCA	[31]
Arabidopsis thaliana	AT2G20750	CACTTCTCCACTTTTCTTCTCGGTT	TAGTGTCGGTAGGATGACCGG	[31]
Arabidopsis thaliana	AT5G20250	CGGATGGTGCACTTGGGACGCGT	AAACTTCGGCGGCGTACCACCGG	[31]
Arabidopsis thaliana	AT5G07440	CCGTCATGCATCTCGAATCCTGGG	CCGATGTATGAAACCAGAGTGCCATCG	[31]
Arabidopsis thaliana	AT5G61380	CATCTTCATCGGGGTGCGGCGGA	AGCTGGCGCCATTCTGCAAGGTCT	[31]
Arabidopsis thaliana	AT3G02380	TCGTTCAGCCGCCTGCACTGTC	AACGCAGCTGGGGCAGACTCAC	[31]
Arabidopsis thaliana	AT4G04610	CCCCTTTTGTCAAGCCATGGCAT	ACCGAGCTGCAATTCCTGCTTAG	[31]
Arabidopsis thaliana	AT3G47340	TGATGTCGAACGCGGGGCAT	GCAGAGTTCTGCGGGAAGAACCT	[31]
Arabidopsis thaliana	AT4G35770	GACAGGTCTCGTCCCACTTCAGGA	TGATCGCCGTGAAGCCAGCA	[31]
Arabidopsis thaliana	AT2G40610	TGCCCACCTAACCCTGGCCT	TGCCGGCACGATACTGAGCG	[31]
Arabidopsis thaliana	AT2G33830	CCCAACCCCTTGACATCAAAGGTG	CACGTTTTCCTTACGCGCCG	[31]
Arabidopsis thaliana	AT5G57550	ACGCGGACCAGTGGGCTACA	CCGCCCGAGGAAACACATGCA	[31]
Arabidopsis thaliana	AT1G11260	GGTTGGGGATGGCGGCTCAG	TTCGTGTTGGCCACGCTCGA	[31]
Arabidopsis thaliana	AT3G18780	CGTACAACCGGTATTGTGCTGAT	GCTTGGTGCAAGTGCTGTGATTTC	[32]
Arabidopsis thaliana	AT1G20990	GCTGCGCCATGTTATCTCCTTCC	ACCCTCCCCGTTCGCTTACCTC	[32]
Arabidopsis thaliana	AT1G66600	TCGTCAACCACACCATGAGTCT	CTCCAGGTGAAGCCGTCATC	[32]
Arabidopsis thaliana	AT4G30290	GGGGTGATGGTCGTGGAAAGATT	CCAGCAGAGTTACCAGGGACAAGTT	[32]
Arabidopsis thaliana	AT2G38600	TCTCCAGCAATACAACCTGTTCTT	CCTCATAATCAGCCTTTCATAACCA	[32]
Arabidopsis thaliana	AT3G47480	CTTTTCCCTTTCGTTTCCATCTC	TCGATTATCGCCTTGACTTCTTC	[32]
Arabidopsis thaliana	AT2G29350	CAATATTCAAGCCGACCACAGA	ACGACTCCAGCAGCAGAGGATA	[32]
Arabidopsis thaliana	AT4G15690	AGACTTTGGCGTGAACCCGACTATC	AAGGGAGCGGTTGAGATGGAGACT	[32]
Arabidopsis thaliana	AT5G19470	TGTCCCACTCCCACCTCCTT	CAAAAACATCGTTCCAGGTGAA	[32]
Arabidopsis thaliana	AT1G64780	TCCGCCTACCTTGTCTTTGC	ACCAAAGGCGAATGCGAATC	[32]
Arabidopsis thaliana	AT5G59320	ATGGCTTTCGCTTTGAGGTTCTTC	GTTGGCGGTCTGGTGTGGTTTTA	[32]
Arabidopsis thaliana	AT4G02330	CGTTCGAGACGGTCAATATCACT	TGTCGTTGATTAGAGGCAATGC	[32]
Arabidopsis thaliana	AT1G49860	CCATATCAAGGTTTAGCCACAGACGA	GCAAGATGATGCAGATCCGCTAA	[32]
Arabidopsis thaliana	AT4G19690	CGTGCGTCAACAAAGCTAAAGC	CGGAGGCGAAAGACTTAATGATA	[32]
Arabidopsis thaliana	AT1G52890	CCACGGTCTTGCGGATACTTCTAACT	ACCCGTGACTGCTCTCGACTTCCTC	[32]
Arabidopsis thaliana	AT5G53820	CCAAGCTAAAGGCCAAACTCA	ACTCGCACCTTGTGCCTTCT	[32]
Arabidopsis thaliana	AT5G44420	TCATCACCCTTATCTTCGCTGCTCTT	ATGATCCATGTTTGGCTCCTTCAAG	[32]
Arabidopsis thaliana	AT5G38910	TTTACGACAGAACCCACCTCACA	GGAAACACAAAGACATCACCCTCGTA	[32]
Arabidopsis thaliana	AT4G26280	ACAATCCTCACAACCTCCTCTCA	CAAACGATATGCCAACGTGACA	[32]
Arabidopsis thaliana	AT5G06510	TGCATCACTCACGCCATCTC	GACTCATTTGCTTCCCTCGATGA	[32]
Arabidopsis thaliana	AT3G45140	AGTCTTGTCAACGGAGGTGGAAT	CCATGTTCTGCGGTCTTATCTTC	[32]
Arabidopsis thaliana	AT1G17420	GGCAAAGAGGTTCCTTACCC	CTTTGAGCGACGGAATTAGG	[32]
Arabidopsis thaliana	AT1G30135	CAGCTTCCAAATCCAAAAGC	TATCGTCGTGAATGGTACGG	[32]
Arabidopsis thaliana	AT3G25770	GCCAAGAAGAACCTCACTGC	TCCGAGACCGAACATTAAGC	[32]
Arabidopsis thaliana	AT5G42650	GACCAATCAAAGACCGTTGG	ATCGAATAAAACCGGGAAGC	[32]
Arabidopsis thaliana	AT3G11410	CATGTCTAGAGCAATTGGTGATAA	CTCTTCCTCAAGTCAACCACAA	[33]
Arabidopsis thaliana	AT3G44880	TTGGTGGCAGGTTGTACCAA	ATCTATCTAGCATCTGACGCTT	[33]
Arabidopsis thaliana	AT3G47950	GCTGTGGCGTACCAGGAT	GAGACCCACAAATTGCCAAG	[33]
Arabidopsis thaliana	AT4G17490	TCGTGGCCTGTACAACAAAC	GGCTTGGGAGGAATGCTT	[33]
Arabidopsis thaliana	AT4G36540	AAGCCACCGACAGACATAGC	TCTTGTAGACATTTCATCTTCTTGC	[33]
Arabidopsis thaliana	AT4G26080	CGCTAACTGCGGTGACTCTA	CCTCGCAGCTTCATCTTCTC	[33]
Arabidopsis thaliana	AT5G16980	TGGGGAAACCTAATCCTTCC	CACTCCGTACCCTTCTATTGGT	[33]
Arabidopsis thaliana	AT5G25460	CCGTCGTGTCTTTCTTCCTT	TCACGAGTCTCCGTTTGGTAA	[33]
Arabidopsis thaliana	AT5G51890	GAGATGTGGTCACCCTGTCC	TGTATCAGTTGAGAAACATTGAACG	[33]
Arabidopsis thaliana	AT5G57050	TGTCTCAACGATTCCTAGATTCC	TCACGACAATAATTCGCTACCTGAG	[33]
Arabidopsis thaliana	AT5G59220	GTTCCCATGTAGCGATGAAATGTAG	AAGCTACGCGCCATTGAC	[33]

Arabidopsis thaliana	AT5G66400	GGCTTGGGAGGAATGCTT	CCTCCTCCCTCCTTGTCC	[33]
Arabidopsis thaliana	AT1G13320	GACCGGAGCCAACTAGGAC	AAAACTTGGTAACTTTTCCAGCA	[33]
Arabidopsis thaliana	AT5G09810	GTGGTCGTACAACCGGTATT	AAGGATAGCATGAGGAAGAGCA	[33]
Arabidopsis thaliana	AT1G13440	ATCAAGAAGGCCATCAAGGA	CCTCAGTGTATCCCAAAATTCC	[33]
Arabidopsis thaliana	AT2G14610	GGAGCTACGCAGAACAACTAAGA	CCCACGAGGATCATAGTTGCAACTGA	[34]
Arabidopsis thaliana	AT1G75040	CGGTACAAGTGAAGGTGCTCGTT	GCCTCGTAGATGGTTACAATGTCA	[34]
Arabidopsis thaliana	AT1G74710	GCCGTCTCTGAACTCAAATCTCAA	GTTACGAGCAAGAACAACCTTGTT	[34]
Arabidopsis thaliana	AT1G19680	AGTTTTCGACGGGACAACAGGAGG	CCCAGTTTCAGATGACGGAGGTCC	[35]
Arabidopsis thaliana	AT3G23900	AAGGAGAGAAAGACGCTGCGGC	TCAGATTCCGGTGCGGATTCC	[35]
Arabidopsis thaliana	AT2G07050	TCTTGGGGGAAAATGTGGCTATCG	CGACAATGGCACCACATCCTTCC	[35]
Arabidopsis thaliana	AT1G54370	GCATTGGAGCTTCATCTGACGAGG	CTCCCCATCTCCATCTCCATCTCC	[35]
Arabidopsis thaliana	AT3G26590	GTCGTTGCCGGCTTCTCATTCG	CCATGATCGTTGCAAGTAAACGCC	[35]
Arabidopsis thaliana	AT1G54920	TCCAACATCATCCAATGTGTTGGC	GAGCGTGAAAGCGTCAACTTCGTT	[35]
Arabidopsis thaliana	AT1G75710	AGCTTCATCAAGCAGTTCGTCACG	TTCACTGCGTCTCGGCAATCC	[35]
Arabidopsis thaliana	AT5G37020	AGATGTTTGCTATCGAAGGGTTGTTG	CCATGGGTCATCACCAAGGAGAAG	[35]
Arabidopsis thaliana	AT1G30490	AGACCTTGGCGGAGTTCCTTTG	GTTGCGTGAAACAGCTACGATACC	[35]
Arabidopsis thaliana	AT4G00150	ACCAAGACCAGTCAGCGGTAATC	AGTGTCGTCGTTGTTGTTGTTAAGG	[35]
Arabidopsis thaliana	AT1G08830	CCAAAGAGAGACGAAGCA	GCCTTTGTGATCTCAGGA	[35]
Arabidopsis thaliana	AT2G28190	GCTCCAGAAGATGAGTGCCGTCA	CCACCCTTTCCGAGGTCATCCTT	[35]
Arabidopsis thaliana	AT1G12520	GATCTCACAAACGGAGCAGCCAGCA	TTCTAGCAATCACTGCGGCGGTCAA	[35]
Arabidopsis thaliana	AT1G01040	GATCCATTCCTAAGCGAAGTTTCAGAG	GCCCGAGCAACATAAAGATCCATAG	[35]
Arabidopsis thaliana	AT1G48410	AAGGAGGTCGAGGAGGGTATGG	CAAATTGCTGAGCCAGAACAGTAGG	[35]
Arabidopsis thaliana	AT1G31280	CCCCAATAACGCAGTTTTA	CAAATTCGTTTCAACACACC	[35]
Arabidopsis thaliana	AT3G62980	GCCTCTCTCTATCTGGCCTCTTGAC	AGGGCAGCTCTCTGGTCTCGAGTCC	[35]
Arabidopsis thaliana	AT5G41740	TGTGATGACGAGTGGAGTGTTCGG	TCCCTCGACGGTGTGAGATTCAGT	[35]
Arabidopsis thaliana	AT1G50440	TCGAATTTGCCTTGATGTTGGAGG	CCATCTATCAGCAGGCACATTGGC	[35]
Arabidopsis thaliana	AT4G33300	ACAGAAGAAAGCGGTTGCTGATGC	TCTGCCTTGGGGAACTCCATGTC	[35]
Arabidopsis thaliana	AT1G11270	TGGATCAGTTCATTGGCTCACCG	CCATATCAGTTGGGCAGGACCG	[35]
Arabidopsis thaliana	AT3G43990	AACCCGATCTCGGAGAAGTT	TCACGATCCAAAGCACTGGATGG	[35]
Arabidopsis thaliana	AT5G60390	ATTGGTAACGGTTACGCCCC	TCTCCTTACCAGAACGCCTGTC	[35]
Arabidopsis thaliana	AT3G62250	CGGACCAGCAGCGATTGATT	ACGGAGGACGAGATGAAGCG	[35]
Arabidopsis thaliana	AT5G44340	CTGTTTCCGTACCCTCAAGC	AGGGAAACGAAGACAGCAAG	[35]
Arabidopsis thaliana	AT1G28480	TGATTGTGATTGGACGGAGA	TAAACCGCCGGTAACTTCAC	[36]
Arabidopsis thaliana	AT1G27730	AGGCTCTTACATCACCAAGATTAG	TACACTTGTAGCTCAACTTCTCCA	[36]
Arabidopsis thaliana	AT1G10430	AGACAAGGTTCACTCAATCCGTG	CATTCAGGACCAAACTCTTCAGC	[36]
Arabidopsis thaliana	AT5G59770	TGTCGCCGTTTGTGAAGTTT	CCAGCAGAAGCGTAAGCAGA	[37]
Arabidopsis thaliana	AT5G10480	ACCCAAGCTTGGGCGGAATATCCACTGTTAGCT	AGACTAGTCGGAAAGTGAATACGCGAGAA	[37]
Arabidopsis thaliana	AT2G28390	AACTCTATGCAGCATTTGATCCACT	TGATTGCATATCTTTATCGCCATC	[37]
Arabidopsis thaliana	AT4G11130	TGGCGAGAGATAACCGGAGGTATG	CTTCTCATCGCGATGGTTTGGATTG	[38]
Arabidopsis thaliana	AT3G43920	GCCTACTTTCGATACCTCGGAAGA	GCATACATCACAGCCTCACGATTG	[38]
Arabidopsis thaliana	AT2G13431	CTTTTACCCAGGTGAGCAAAC	CAAGCTCTTAACGCAAATTCAAG	[38]
Arabidopsis thaliana	AT3G50480	CTTGTGGTTTGTACTAATGGTGTCTAC	TTGTATCTCACGTGCTACCCTTAC	[38]
Arabidopsis thaliana	AT4G04293	GACGACTACTTCACCCAACGTG	CAGAATCTACGCAAGCACTCTAATG	[38]
Arabidopsis thaliana	AT5G25760	CTGCGACTCAGGGAATCTTCTAA	TTGTGCCATTGAATTGAACCC	[38]
Arabidopsis thaliana	AT5G35210	TCAGCCTTACCCGGAAGTAG	TGCACCAAAGCTTCCTAGTG	[38]
Arabidopsis thaliana	AT4G00450	CCGAGGCTGTGAGAACTTATTC	ATGTTTGCGAGGTCCCTTAC	[38]
Arabidopsis thaliana	AT3G07610	AAGGGTAGGCCAAAGGGTAAG	CCAACCATCCGGAAGTAGTC	[38]
Arabidopsis thaliana	AT3G07610	GAACTTCTATCTGACGCGGTATC	TTGATGAGGGCAACCTACAG	[38]
Arabidopsis thaliana	AT4G34270	TTGGCTGAGAGTTGATGGTG	GGTCGCTCCAGACTGCTAAG	[39]
Arabidopsis thaliana	AT5G43940	TGGGAAACCCATTTATCACTTCATG	CAGCAAGTCCAACAGTGCCAAG	[39]
Arabidopsis thaliana	AT4G39400	AGCGATTAGCGGAAACAAAA	AGATGTTGCAGAGCAGAGCA	[39]
Arabidopsis thaliana	AT3G09840	GTATGCGCGTAGGAGTGTGA	ACCGAACCCTCTAGACTGCT	[39]
Arabidopsis thaliana	AT5G64740	AAGTGACGGTGTTCGTGATG	TCAAATCCGGGTCTCTTCTC	[39]
Arabidopsis thaliana	AT5G60920	GGAACAAGCTTCGTCTCTGG	ATTTGGAGACGATGGAGGTG	[39]
Arabidopsis thaliana	AT5G06150	TACTCGAAGTTTCCGTGCCCAGTT	TCTTTGGACCAAGAGCTGGAACCT	[39]
Arabidopsis thaliana	AT4G35620	AGAGGTTCCTCAAGGCAGCTCAAT	GTGCTGTTCCATTCACTGAAGCCA	[39]
Arabidopsis thaliana	AT4G34160	TGGGCAATCGTAGCCACTCCATAA	CACGTAAGGGCATTCGCGACATTT	[39]
Arabidopsis thaliana	AT1G12840	GGCTGGTTTAGCTGGTGACT	GGAGAAGTGGCATCAAAAGC	[39]

Arabidopsis thaliana	AT3G19820	TGACTGCTAGAGTGGAGCCT	AGCAACAACAGCGAGAGACA	[39]
Arabidopsis thaliana	AT2G06850	AAGCTTCTGTGGAAGCCAAG	TTGTTCAGCGTCAAGGTCAC	[39]
Arabidopsis thaliana	AT2G37640	CAGGGTACCTTGTCGGAAGA	AGTGATTGGCCGATGAGAAC	[39]
Arabidopsis thaliana	AT2G05520	CTTCCAAGGCTTTGGTTCTG	AGCCACGTTGATCAGGTTTC	[39]
Arabidopsis thaliana	AT2G23430	AGCTACGGAGCCGGAGAATTGTTT	GTCGACGTTTCAGTGTCACCATCT	[39]
Arabidopsis thaliana	AT5G49720	GTCCAACGGAGCAGAAGAAG	CGGCAACAAGAGTACCAACA	[39]
Arabidopsis thaliana	AT1G05850	TGCCCTCTTTGAGCCTCTTG	GCTGGCTACATGACCGAGAA	[39]
Arabidopsis thaliana	AT3G16640	TCGTTGGGTTACTGTGGTCG	ATAGGGGACGACGACGAAAC	[39]
Arabidopsis thaliana	AT1G21250	CGGATCCCAAAACCTGTAGA	GTATACAGGCAACGCCAAG	[39]
Arabidopsis thaliana	AT3G53980	CCGTCCCGTCGGTTACAAG	CCCAATGTTATCTCCTTCATCCT	[40]
Arabidopsis thaliana	AT5G13900	CATCGATGTCAATGATGCTCAA	TAGAACGAGTCAAGCAAGCAAT	[40]
Arabidopsis thaliana	AT2G18370	TGATCAATGGTCCATCTTGTCCTA	ACAACATGTGTACATTCGCCTACA	[40]
Arabidopsis thaliana	AT5G05960	GCTGTGCTCGAGTGAAACAGAT	GGAGCTCCTAGCTGTGGAAGAAAG	[40]
Arabidopsis thaliana	AT2G37870	CTAAACGCTGTAACATCCGAAACC	CAAATGCTCATAAGATCATGGAACA	[40]
Arabidopsis thaliana	AT1G04820	TCGTCTTGTGAGAATGGGCTC	ATAACATGGCTACGAAAAGATAGAGA AGT	[40]
Arabidopsis thaliana	AT2G24210	CTGGTGGATGGAGACAGGTT	AGAGGCTCTTGGATTTGTCC	[41]
Arabidopsis thaliana	AT1G14790	AAGAGCGGTTCGGGCGTTGA	AGCCGAAGCCTTTGCTGACTCA	[41]
Arabidopsis thaliana	AT5G09810	TACAACGAGCTTCGTGTTGC	TACATGGCAGGGACATTGAA	[42]
Arabidopsis thaliana	AT5G49360	GGAGCCCTTGTAAAATGCTG	ATGAAAACGCCATTGCTCTC	[42]
Arabidopsis thaliana	AT2G44990	ACAGCCGCAGATTTGTTGA	CGACCGTCGACTTTGTAATG	[42]
Arabidopsis thaliana	AT2G04750	GCCAATTCACACAAGTGGAG	TCACAGTGACACGACCGAAT	[42]
Arabidopsis thaliana	AT1G02940	TGACCAGAAGAAGCCGAGTT	AAGACCCCCGTCTAGGAAAA	[42]
Arabidopsis thaliana	AT5G25930	GAGAAGGAGTTTATTGCTGAAGTTG	AGCTTTGAATCTTCCCTTGAGATAC	[43]
Arabidopsis thaliana	AT4G24160	GGTCATTTTGTGTTCATAGACAACC	GAGTTGTTGATCATGAGAGGAGTCT	[43]
Arabidopsis thaliana	AT3G44190	GACTTCTCCAGCGGTTAATATCAC	CATTGTGACCAGTAGCAATAACAAG	[43]
Arabidopsis thaliana	AT1G12240	GACACGAGGTTCGATCATTATGCTG	GACCGACCTCGAGATCAAATTGC	[44]
Arabidopsis thaliana	AT1G20630	CGCCATGCCGAAAAATACCC	CTTGCCTGTCTGAATCCCAGGAC	[44]
Arabidopsis thaliana	AT1G27730	GCTTCTCCGATTCCTCCTTT	TCTTGTCGCAGACGCTACAC	[44]
Arabidopsis thaliana	AT1G52890	GTTCCACGGTCTTGCGGATAC	GCTCAACATTACCGGCAAAACTAG	[44]
Arabidopsis thaliana	AT1G74970	TTCTTCGTTCAGCGACAATG	AGATACCGTGGCGGTGATAG	[44]
Arabidopsis thaliana	AT2G21580	GCCAAAGAAGGATAAGGTTCCACCA	CCTCGCAAGAGACCCATTAATCCTC	[44]
Arabidopsis thaliana	AT2G23170	CGGTTTGGTCTCAAGGGATTCAC	GTCGGTCCATGTCTTCATCAATGG	[44]
Arabidopsis thaliana	AT2G42740	CGTTTCGTTCTCCGTCTCTC	AAAACCTTGGAGGCTCTGGT	[44]
Arabidopsis thaliana	AT3G03780	TGCCTCCTGGATTCAGCTTGATGAG	GCCTTGCGCTAACTTCAGTTGTACG	[44]
Arabidopsis thaliana	AT3G11020	TCGAGATGAAGCGGATGCAAATCA	TGAATGAACCTGGTCCCCATCAGA	[44]
Arabidopsis thaliana	AT3G17465	GGATCATCGCGGTTAAGTGT	GCACACCTTGTGCTCTGAAA	[44]
Arabidopsis thaliana	AT3G18740	GTCCCATGAAGGAATCAACAGCAG	CATTGTTGCCATTGTAGCGATGAAC	[44]
Arabidopsis thaliana	AT3G18780	ACCTTGCTGGACGTGACCTTACTGAT	GTTGTCTCGTGGATTCCAGCAGCTT	[44]
Arabidopsis thaliana	AT3G28900	CCGCATCGTCAAAACTCCTGGTG	CGATCCTCTCCCTAACAGCAACTCC	[44]
Arabidopsis thaliana	AT4G00100	CATGGGTCGTATGCACAGTC	TCTTGACCTGAGGGATACCG	[44]
Arabidopsis thaliana	AT4G25490	GCATGTCTCAACTTCGCTGA	ATCGTCTCCTCCATGTCCAG	[44]
Arabidopsis thaliana	AT4G33950	TTTGCCGATTATGCACGATA	TGGCTAAATGGGTTGGTGTT	[44]
Arabidopsis thaliana	AT4G34000	AACCGTTCTCAACCTGCAAC	TTGGAGTCAGATCAGGTGACAT	[44]
Arabidopsis thaliana	AT4G38620	TCCCGGCAATAAGCGACCATTTG	TCACCGAGGAAGAAGACGAACTCA	[44]
Arabidopsis thaliana	AT5G02940	AGAACCTTGGCACGGTATTTGTGG	GGCAGCCCTTTCAAACGATTTTGTC	[44]
Arabidopsis thaliana	AT5G04620	TGTTCGACGGTTTGTGTCAATGG	TGATTCAGCGCATCAGAAAAGATGG	[44]
Arabidopsis thaliana	AT5G15960	ACCAACAAGAATGCCTTCCA	CCGCATCCGATACACTCTTT	[44]
Arabidopsis thaliana	AT5G52310	TCACCGGAACTTTCTCATCC	TGCTCTGTTTTGGCTCCTCT	[44]
Arabidopsis thaliana	AT2G21590	GATTCTTCTTACTCCTTTGCCTTG	CGTGCTTGAACTTTTGATTCC	[45]
Arabidopsis thaliana	AT2G01980	ATGATGGGACGGCGATTGT	TGCCAAACGCCAGACCAAT	[46]
Arabidopsis thaliana	AT5G35410	TTGGTCTTGCGGGGTTATTC	TTGGTCTTGCGGGGTTATTC	[46]
Arabidopsis thaliana	AT5G24270	CGGAGGAATCTCTTCGCTG	CGCTTGGATGGAAGACACC	[46]
Arabidopsis thaliana	AT5G27150	CTACCTATTACCGCACCAGAACG	CTCAATGAACGAGTCTTGGTCC	[46]
Arabidopsis thaliana	AT4G10310	ACGGCGAGAGATGTTCTTAGTTCCAA	CATGTTCTCATTCGTGGGGACAAAT	[46]
Arabidopsis thaliana	AT3G18780	TGAGCACGCTCTTCTTGCTTTCA	GGTGGTGGCATCCATCTTGTTACA	[47]
Arabidopsis thaliana	AT1G21100	CGTCGCAGACAACTTTGATG	TGATCTCCCACATGTCATCG	[48]
Arabidopsis thaliana	AT1G51680	CTCCGGTGTCTGGATCAACT	GAAATCTGGTGCTGCTCCTC	[48]
Arabidopsis thaliana	AT2G30490	GCAAGCTGAATTGTCCACCT	CACATCCTTGAAGCTGAGCA	[48]
Arabidopsis thaliana	AT4G34050	CATCATCGACCAATGGAGAA	TCGATCAAACGCTTGTGGTA	[48]

Arabidopsis thaliana	AT4G37970	TCGATCAAACGCTTGTGGTA	GTTAGGTGGAGTCGGTCACA	[48]
Arabidopsis thaliana	AT4G05320	AGGACAAAGAGGGTATCCCA	CAGACGCAAGACCAAGTGAA	[48]
Bombyx mori	BGIBMGA003866	AGGACAACATCAGAGACATCACCG	TGTAACGGACGCCAAAGT	[49]
Bombyx mori	BGIBMGA000031	CGAGTGAGCGTCTGAGCG	TCCAGCACACAATAGCCCT	[49]
Bombyx mori	BGIBMGA001149	TTGGCACTTATGGATACGAC	CCATAGCCCAGTTCATCG	[49]
Bombyx mori	BGIBMGA014032	ATTAGTAATCTGGATGATAAGGAG	GCTGTTGAAAAACTAAGGTAAAG	[49]
Bombyx mori	BGIBMGA010917	TGGCGGTTACACTGGACT	AAGGGTGTTTCACTTGTTTT	[49]
Bombyx mori	BGIBMGA007253	ATTCAGCGTATCAACAGCAGT	TGGAAGCGAGTGGAAAGAG	[49]
Bombyx mori	BGIBMGA007255	ACTCTAATCCGTTATTCTACCC	GCACTGAAGTTGGCACAT	[49]
Bombyx mori	BGIBMGA007254	TTCTTGGTATGGCTCTGTCTCC	GCTTCCGCTGCTGATTGC	[49]
Bombyx mori	BGIBMGA003918	GGGTGGCGAGGGACATAGT	ACCTGCCGTTATGCCACCT	[49]
Bombyx mori	BGIBMGA014224	CCCTGTATTTCCACCCGAT	AAACGAAACACTTGATTGAGC	[49]
Bombyx mori	BGIBMGA001235	ATTCTGGGTCTCAGCAAACT	CTGGACTCCTCGCATCAC	[49]
Bombyx mori	BGIBMGA008134	AGGGCTCGTTCGTTGGTA	GAAGTCCTCGGCGTCATT	[49]
Bombyx mori	BGIBMGA007856	TGTGCCCTACGGTTACGC	ATGGAGCCGATTAGAGCC	[49]
Bombyx mori	BGIBMGA006740	AAAGTTTATCGTAAGTTTAGCACAGT	CGACTCGCTTCGCTGATA	[49]
Bombyx mori	BGIBMGA007285	CTTGGTGGACAGGATGGG	GGACTATGAAACATTTGCCTTA	[49]
Bombyx mori	BGIBMGA007286	ACTTTTATTGTTAATGGATTCGCA	AAATCATGCTACCGTCCGC	[49]
Bombyx mori	BGIBMGA002922	TCCTGGTTCCACTACGGC	GCGAAATCGTCCTGTGAAA	[49]
Bombyx mori	BGIBMGA003864	GTCCTGATCCGCCTCTCC	GCAATAACCTCGTAGCAAAGC	[49]
Bombyx mori	BGIBMGA002581	TACGCCAATGCATACGGA	AAACGAAGCCACGAGAAATA	[49]
Bombyx mori	BGIBMGA010392	AAAAACTTTCTGTCGCCGTA	TAGCGTGCGTGCTGTTTC	[49]
Bombyx mori	BGIBMGA000772	TCTCTTACGACGGTTACAGC	TTGGTATTGTAGTTCCCGC	[49]
Bombyx mori	BGIBMGA013930	GGAGCACGAAGTCAATAGTCA	GGCATTGACCAGTTTCGG	[49]
Bombyx mori	BGIBMGA008815	CGCTTTCTTCGACACCAA	AACCCATCCCAGACCTTC	[49]
Bombyx mori	BGIBMGA013971	ACTTCGGGTTAGGTTTTAGC	CCCTGTCCACGCAATGTA	[49]
Bombyx mori	BGIBMGA011646	GCTCACACTCTACCACGGGAC	TGACCACAGCCTCTCCGC	[49]
Bombyx mori	BGIBMGA004221	CCATTCACTTTAGGAGCACTTATT	ATTCGTGGAAGCGTCGTG	[49]
Bombyx mori	BGIBMGA007517	ATGCTGGTCCTGAGATTGG	GGCAAGAACCTGGCGAAT	[49]
Bombyx mori	BGIBMGA001609	CGACTGCCCGAGAAGATT	TGGACCAGCGGTAAACAC	[49]
Bombyx mori	BGIBMGA006767	GCGACAACTACCGCAAGG	TTCGCAACGTGTTCAGGT	[49]
Bombyx mori	BGIBMGA002964	AAGAGCCGCATCGTGTGG	GAGAAGATGCGTTGGAGGC	[49]
Bombyx mori	BGIBMGA000716	TGGATTGGGCAAGAAACA	TGGTCGGCTAATGAAGGA	[49]
Bombyx mori	BGIBMGA007914	AAGCTTACATAGCGACTCATTC	TCTTGTTGGCGGGATTTA	[49]
Bombyx mori	BGIBMGA007970	GCCACCATCATCACAACAAA	TTCAGCAGGAACTCCCACA	[49]
Bombyx mori	BGIBMGA000251	CCCCACAAATACGAGGAAAT	CAGGCTCTGGTCTAAACTCG	[49]
Bombyx mori	BGIBMGA004074	ATTATCTGCGTTGCTTTATTGG	CCGTCCAACCCAATGAGT	[49]
Bombyx mori	BGIBMGA002770	TTGTCCTTGCCCTTGTGG	AAGGCAGGGTCCTTCCTG	[49]
Bombyx mori	BGIBMGA000371	ACGTGATCCAGTTGTCCCTA	GTTGCCATCCCTGTCTTT	[49]
Bombyx mori	BGIBMGA002384	TTTTGCTGTCCCAGTTGAG	GTGGTCGCTGACGAGGTA	[49]
Bombyx mori	BGIBMGA001959	ATGAAAGCTCTGGTGGGC	TCGTCCTTGAGGGAAACC	[49]
Bombyx mori	BGIBMGA000247	CGGTTATGTTGATGCTGC	CGACCAAGTTATGGACGA	[49]
Bombyx mori	BGIBMGA010501	CTCGGTATGAGTCCGTAGATG	CTGTAGATCGGCATTGGG	[49]
Bombyx mori	BGIBMGA011766	CTTGTTACCCTCGCCACTG	ACGGCTGGTGTCTGGATT	[49]
Bombyx mori	BGIBMGA002549	ATCACCACCAACAGCAAG	GTCGTCTCGTGGACCTTT	[49]
Bombyx mori	BGIBMGA003060	CAGGAAAGCAGACGAGGTG	CTGGGATTGGAGAAGAGGTT	[49]
Bombyx mori	BGIBMGA000259	ACAAGTACCAGCACGAGACC	AGGTACAACATGGCGAGC	[49]
Bombyx mori	BGIBMGA000369	GACAGAAAGCACCCGTAGAA	GGCGACGAAAGAAACAGAG	[49]
Bombyx mori	BGIBMGA000345	TGAAACTGTTCGTTCTCTGTG	TGAGTATGAGCCTCGGACA	[49]
Bombyx mori	BGIBMGA000325	ATCATTCGGCGAGCACTG	ACCTTGTGGCTGGAACCC	[49]
Bombyx mori	BGIBMGA011728	CCGTCGTAGCAACCACCT	AGCGGAATACGCAATAGG	[49]
Bombyx mori	BGIBMGA000335	TCAGAGCCCATCTCCACC	ACTCGTTTCCGACGTGCT	[49]
Bombyx mori	BGIBMGA011757	CCGACAGCCGTATCACAT	CAAAGCAGGAGCCACAAC	[49]
Bombyx mori	BGIBMGA011725	GTTCAGTTGTTGCTTCAGTGT	AGTATGTGAGGTGGGTGGA	[49]
Bombyx mori	BGIBMGA005148	GCACCCAGTCTACATCCTCAA	GGTCCTCGCTGATTTGCTT	[49]
Bombyx mori	BGIBMGA007085	AAAACGGCTTCCATCCAG	CGCCCATTGTTACCTCCT	[49]
Bombyx mori	BGIBMGA008212	GCCAGACACTGCACATCACTC	CGCTTCTCACGGACATCG	[49]
Bombyx mori	BGIBMGA010500	AAGCGGAAATCCTCTGTAT	CTGTTGAGCGACAAATGG	[49]
Bombyx mori	BGIBMGA013567	CGGTGTTGTTGGATACATTGAG	GCTCATCCTGCCATTTCTTACT	[49]
Bombyx mori	BGIBMGA000667	CGACAAAGAGTTGAAAATTGAGGA	CGACAGTGTCATAGCAGAGTACCAT	[50]

Bombyx mori	BGIBMGA010231	GTTGAACCCGACGGCACA	AAGGGAGCGGCTTCATATCTG	[50]
Bombyx mori	BGIBMGA011723	CGGCTCCAGTGTTGGCTTC	TTTGTTTAGAAGATGTAAGGGGAAGA	[50]
Bombyx mori	BGIBMGA002044	TCAAGCATCTTTAGGGTACGCA	ACACGACTTGAGCCTCATCATAAA	[50]
Bombyx mori	BGIBMGA002384	TCTGCTTAGTTTTCCTGCTGGTAG	CCTTGTCCGTGTCCGATGTAG	[50]
Bombyx mori	BGIBMGA000246	CTCATGTAGCACCTGTAGCCCAT	ACATTGATAGATTCCAGCCCTAAGA	[50]
Bombyx mori	BGIBMGA006666	AAAGTTGAGCGCAATAGGTGGT	GCGACATACTGATCGGTACAGATAC	[50]
Bombyx mori	BGIBMGA008418	TCAGGAGGAACTCTTACAACCCA	ATTTGTTTCTTGGGTATCCAGTCTC	[50]
Bombyx mori	BGIBMGA012864	ACTATTCCTTCCCCTTCG	ATGGGCACTGGACTGACT	[51]
Bombyx mori	BGIBMGA012865	GACAGCGTCATCACCCCT	TCTCTCACAGTTTGCCCG	[51]
Bombyx mori	BGIBMGA011609	TCAGCGGCAGAATCACATCA	CGCACGCTATCTTCACTACGC	[51]
Bombyx mori	BGIBMGA001590	ATTACGACCTCGCTTGTGACG	TTCATGGTCAGAGCGATCCTT	[51]
Bombyx mori	BGIBMGA004735	TCTCGCTGTAACATCCGTGC	TGGAAAGTCCTCTTCACCTCAG	[51]
Bombyx mori	BGIBMGA006623	CCACAGAGGAGATACACAAGTTCA	CGTAATGTGCAACCAGCCTT	[51]
Bombyx mori	BGIBMGA014360	ATGAAGGTGTACGCGTGCTTGT	TCCGTCCTCGAGCGAGAAAGTC	[51]
Bombyx mori	BGIBMGA010938	GAACTTACAGAGTCGGTTTGGTCA	AGCCATAGACCAGACTGAACAAGT	[51]
Bombyx mori	BGIBMGA008824	CGCATCACGACAACTACGC	ACGTGGGTGTGGTCAGCAGT	[51]
Bombyx mori	BGIBMGA003696	GCATTTACCGTGAAAGCC	AGTATTTACAGGATGGGTTG	[52]
Bombyx mori	BGIBMGA003697	CGTCTTGTCTCGTTACCCT	ACGTTCGCTACCATATTGAC	[52]
Bombyx mori	BGIBMGA003698	AGCAGCAACAAGGAACCAAG	TCTGAAAACCCATAATGAACTA	[52]
Bombyx mori	BGIBMGA003699	AAGAAGATAGTGGTGCTGAA	CAATGGTAATGTCCTTGTGTA	[52]
Bombyx mori	BGIBMGA003496	GCACCAATAATGGCAACG	TGTGCAGCTATTTGTCTACT	[52]
Bombyx mori	BGIBMGA003700	CACCTGCTGATGATATGGCAG	GCATATTGCTCCTGCTGTTC	[52]
Bombyx mori	BGIBMGA003701	ATGGAGGGAGATTCCTGTCA	CCGAAACAATACTTAGGGTC	[52]
Bombyx mori	BGIBMGA003495	AAGGAAGCCCTGCGAATCTA	ATAACCGTTGCCGTTTGAGT	[52]
Bombyx mori	BGIBMGA001635	ACGGCAACTCAGACCCAAGAG	GACGCCGAGCGATAATGG	[53]
Bombyx mori	BGIBMGA004290	CGACTGATGAAGTGGCTGAC	CGAAAGTTGAACCGACCC	[53]
Bombyx mori	BGIBMGA004515	CAGGCCCTTATATGGTCGAGGC	CCAAGGTCGGAAGTAGTCG	[53]
Bombyx mori	BGIBMGA004540	TGTTGTCTGTAATCGCACCC	TAAGCCTTGTCGCCGTTG	[53]
Bombyx mori	BGIBMGA004541	ATTTCAAGGCAGTTCGTCC	CTCGTTGGCTTCTTCACTCT	[53]
Bombyx mori	BGIBMGA004605	CCATTCGTGTTGGGTGAC	TCAACAAGACGACTGGGC	[53]
Bombyx mori	BGIBMGA004613	GTCGCCTTGAACCCTAACA	CAAATCGTTTCGTCTCACCT	[53]
Bombyx mori	BGIBMGA004614	TGAGCAACAAAGGAATGGAG	ACGGTGGGTCCAGTATTTC	[53]
Bombyx mori	BGIBMGA005780	TCGGCGATGAATCAAATG	TTTCCCTTCCACCACGAC	[53]
Bombyx mori	BGIBMGA013536	AAAATCTCACTCAAACAGGCA	GGGGAACGGTAGTCCATAGC	[53]
Bombyx mori	BGIBMGA014536	CGCTGGTCTGAATGTGCT	GCGAGGATTGCTGGTTAT	[53]
Bombyx mori	BGIBMGA014618	GTCGCCTTGAACCCTAACA	ACTACCGCATCCCGCACT	[53]
Bombyx mori	BGIBMGA002161	GAGCAGGAGGAGTCGATGAT	GAAGAAGCCCGTGTTGAGC	[53]
Bombyx mori	BGIBMGA004521	TAACGGACTGGGAGATGAA	TCGGCGTGCTTAGGGATA	[53]
Bombyx mori	BGIBMGA007809	CAACGAGGCTCTTTCTGGT	CAAGTAGGTGGAGGCAAT	[53]
Bombyx mori	BGIBMGA002239	CGTCGTGTTTCTGGTGGT	AGGCTCGCCAGTGTTATG	[53]
Bombyx mori	BGIBMGA009120	CTGGTCCCACCGTCATCT	CGAGCAAACTCCTAGCGT	[53]
Bombyx mori	BGIBMGA013346	TACGCCACCTTCCTAATC	CTTGACCAGACACCTCCA	[53]
Bombyx mori	BGIBMGA000852	GGATGCTTGGAAGTGGGATA	GGCGGGTCTTTGTGGTAG	[53]
Bombyx mori	BGIBMGA007929	CGGCTCTCACCAATCTTATG	CCAGTCGGAGTGCGGG	[53]
Bombyx mori	BGIBMGA012701	GCGATTGCATAGCCACTT	CTCCACTCCACCTCCACC	[53]
Bombyx mori	BGIBMGA013945	CCGTATGCAAAAGGAAATCA	TTGGAAGGTAGAGAGGGAGG	[54]
Bombyx mori	BGIBMGA003670	GTTGTCGTCGTGTTACCAGGA	GTTGTCGTCGTGTTACCAGGA	[54]
Bombyx mori	BGIBMGA010406	CGAAGCTAATGAATACCGGTCG	CGTGCAGCATACTCTTGTGCA	[54]
Bombyx mori	BGIBMGA009037	TCGAGAGACGGCTACGACAAT	CTGCGAGACGATCAGGAAATC	[54]
Bombyx mori	BGIBMGA010644	TTTCAATATCGCGTCCGCC	ACACCGTCGCGGTAAATGAAG	[54]
Bombyx mori	BGIBMGA004401	ACGACAACGACGTTTTGTTCTTC	CCAGGTGTCGGTTGGCTTAG	[55]
Bombyx mori	BGIBMGA004394	CTGAATATCTGAAGGAAAAGAAGGG	TTGTCCATAACTGGTAGGCGAAG	[55]
Bombyx mori	BGIBMGA012485	AATGGAACCTTGATCCCAATG	CGCTACCCCAGATGTACCAAT	[55]
Bombyx mori	BGIBMGA002627	GGCGTTCGCCGTCTTCAACT	CCAATCTTCGCTGCATTTATCACTT	[55]
Bombyx mori	BGIBMGA003132	CAAGCCATCTACGAACTAAGGGAC	GCACGAAGGAATCTAATCAGGAAT	[55]

Supplementary Table S4. Comparison of specificity and classification of primer pairs collected from literatures and qPrimerDB.

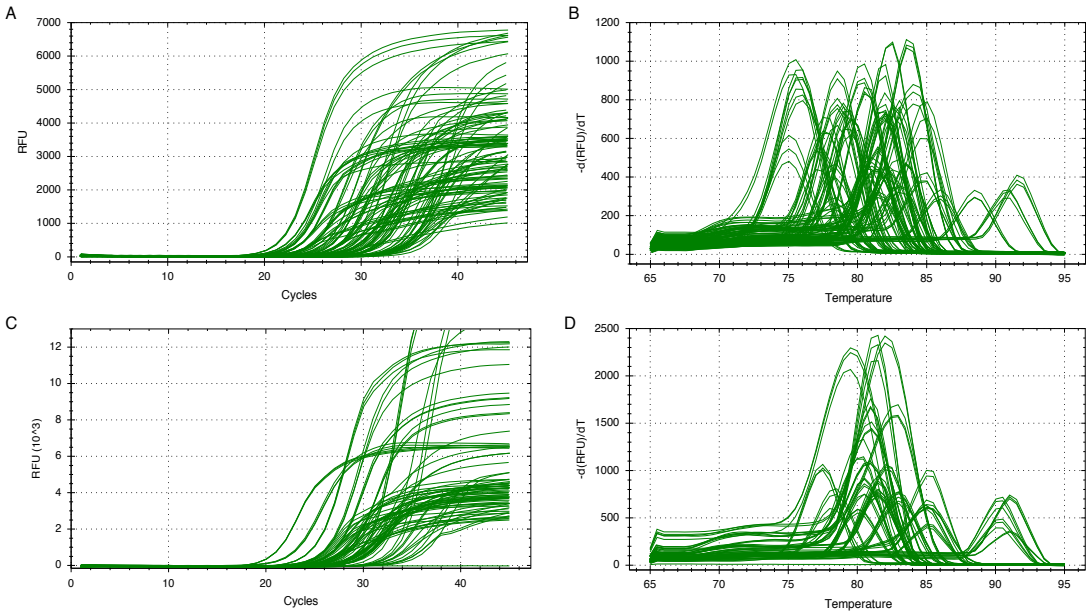
Primer class	*Arabidopsis thaliana*				*Bombyx mori*			
	Literature		qPrimerDB		Literature		qPrimerDB	
Non-specific	133	28.91%	111	24.13%	23	20.35%	2	1.77%
Specific	327	71.09%	349	75.87%	90	79.65%	111	98.23%
Specific Level1	97	21.09%	218	47.39%	36	31.86%	96	84.96%
Specific Level2	109	23.70%	128	27.83%	37	32.74%	15	13.27%
Specific Level3	121	26.30%	3	0.65%	17	15.04%	0	0.00%

All the primers have been listed in the Supplementary Table S3.

Supplementary Table S5. Comparison of primer pairs derived from MRPrimer and qPrimerDB

Primer class	Mrprimver		qPrimerDB	
Non-specific	7857	35.14%	4725	21.13%
Specific	14500	64.86%	17632	78.87%
Specific Level1	2937	13.14%	11260	50.36%
Specific Level2	9506	42.52%	6057	27.09%
Specific Level3	2057	9.20%	315	1.41%

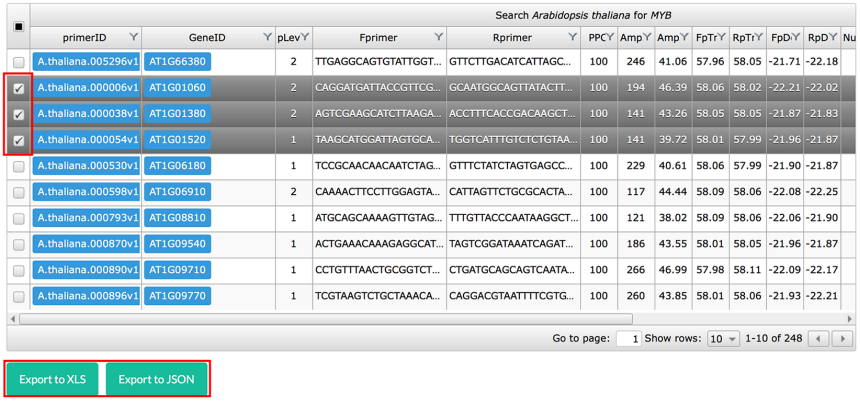
All the primer pairs were downloaded from MRPrimer and qPrimerDB. For primer pairs in the MRPrimer, only 25444 best primers were kept for comparision with qPrimerDB.



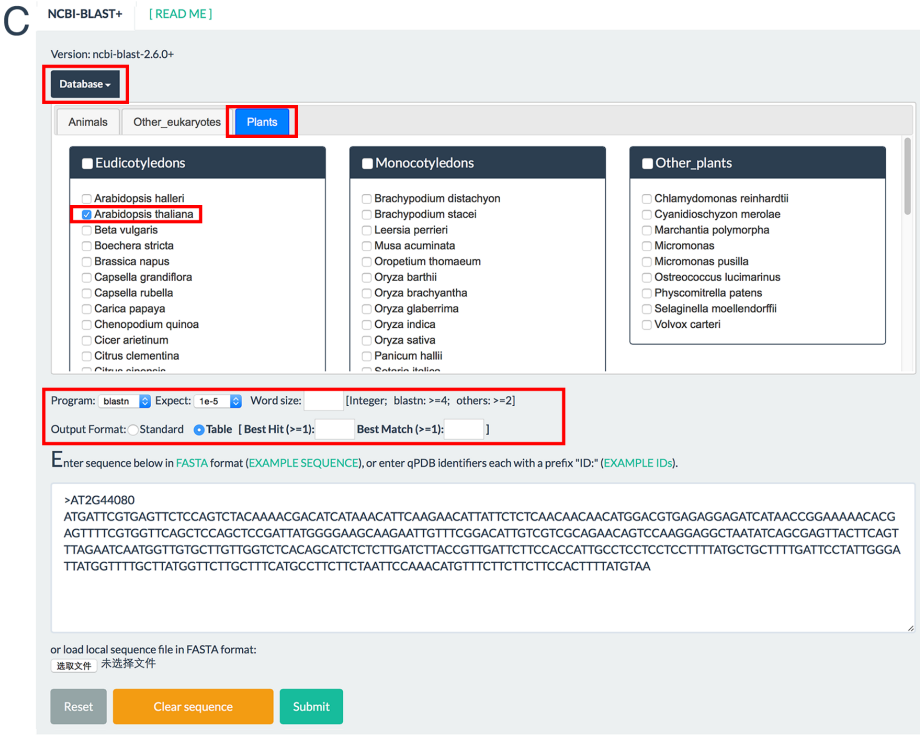
Supplementary Figure S1. qPCR validation of 66 randomly selected genes derived from 6 organisms. The maximal relative fluorescence units (RFU) are 7000 (A) and 13000 (C) on the y-axis of amplification curves of the 66 genes. The maximal relative changes in RFU over time are 1200 (C) and 2500 (D) on the y-axis of melting curves of the 66 genes.

A

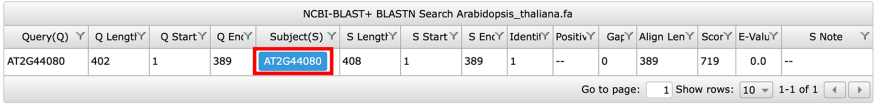
B Search *Arabidopsis thaliana* for *MYB*



C



D NCBI-BLAST+ BLASTN Search Arabidopsis_thaliana.fa



Supplementary Figure S2. Screenshots of search and BLAST tools in qPrimerDB. (A) Search input interface. The interface provides an organism selection checklist and keyword input interface. After selecting single or multiple organisms, users can input three types of keywords, as shown in the examples. (B) Search results are displayed in table format. From this interface, users can click the boxes next to the genes of interest and export detailed information about the primers as XLS or JSON files. (C) BLAST analysis interface. This interface is designed to search the database using query sequences in FASTA format against the coding/mRNA sequences of the target organism(s). (D) BLAST results web interface. If the BLAST results are listed in table format, detailed information about the target primer can be displayed via the hyperlink in the Subject column.

Reference

1. Ye,W., Ren,W., Kong,L., Zhang,W. and Wang,T. (2016) Transcriptomic profiling analysis of *Arabidopsis thaliana* treated with exogenous myo-Inositol. *PLoS One*, **11**, e0161949.

2. Noutoshi,Y., Ikeda,M. and Shirasu,K. (2012) Diuretics prime plant immunity in *Arabidopsis thaliana*. *PLoS One*, **7**, e48443.

3. Bac-Molenaar,J.A., Fradin,E.F., Rienstra,J.A., Vreugdenhil,D. and Keurentjes,J.J.B. (2015) GWA mapping of anthocyanin accumulation reveals balancing selection of MYB90 in *Arabidopsis thaliana*. *PLoS One*, **10**, e0143212.

4. Jung,I.L., Ryu,M., Cho,S.K., Shah,P., Lee,J.H., Bae,H., Kim,I.G. and Yang,S.W. (2015) Cesium toxicity alters microRNA processing and AGO1 expressions in *Arabidopsis thaliana*. *PLoS One*, **10**, e0125514.

5. Li,W., Duan,H., Chen,F., Wang,Z., Huang,X., Deng,X. and Liu,Y. (2014) Identification of quantitative trait loci controlling high calcium response in *Arabidopsis thaliana*. *PLoS One*, **9**, e112511.

6. Cuéllar Pérez,A., Nagels Durand,A., Vanden Bossche,R., De Clercq,R., Persiau,G., Van Wees,S.C.M., Pieterse,C.M.J., Gevaert,K., De Jaeger,G., Goossens,A., *et al.* (2014) The non-JAZ TIFY protein TIFY8 from *Arabidopsis thaliana* is a transcriptional repressor. *PLoS One*, **9**, e84891.

7. Lieberman-Lazarovich,M., Melamed-Bessudo,C., De Pater,S. and Levy,A.A. (2013) Epigenetic alterations at genomic loci modified by gene targeting in *Arabidopsis thaliana*. *PLoS One*, **8**, e85383.

8. Westwood,J.H., Groen,S.C., Du,Z., Murphy,A.M., Anggoro,D.T., Tungadi,T., Luang-In,V., Lewsey,M.G., Rossiter,J.T., Powell,G., *et al.* (2013) A trio of viral proteins tunes aphid-plant interactions in *Arabidopsis thaliana*. *PLoS One*, **8**, e83066.

9. Han,Y., Zhang,X., Wang,Y. and Ming,F. (2013) The suppression of WRKY44 by GIGANTEA-miR172 pathway is involved in drought response of *Arabidopsis thaliana*. *PLoS One*, **8**, e73541.

10. Shen,J., Xing,T., Yuan,H., Liu,Z., Jin,Z., Zhang,L. and Pei,Y. (2013) Hydrogen sulfide improves drought tolerance in *Arabidopsis thaliana* by microRNA expressions. *PLoS One*, **8**, e77047.

11. Armenta-Medina,A., Huanca-Mamani,W., Sanchez-León,N., Rodríguez-Arévalo,I. and Vielle-Calzada,J.P. (2013) Functional analysis of sporophytic transcripts repressed by the female gametophyte in the ovule of *Arabidopsis thaliana*. *PLoS One*, **8**, e76977.

12. Witzel,K., Hanschen,F.S., Schreiner,M., Krumbein,A., Ruppel,S. and Grosch,R. (2013) Verticillium suppression is associated with the glucosinolate composition of *Arabidopsis thaliana* leaves. *PLoS One*, **8**, e71877.

13. Cao,J. (2012) The pectin lyases in *Arabidopsis thaliana*: evolution, selection and expression profiles. *PLoS One*, **7**, e46944.

14. Gallego-Bartolomé,J., Alabadí,D. and Blázquez,M.A. (2011) DELLA-induced early transcriptional changes during etiolated development in *Arabidopsis thaliana*. *PLoS One*, **6**, e23918.

15. Adamo,A., Pinney,J.W., Kunova,A., Westhead,D.R. and Meyer,P. (2008) Heat stress enhances the accumulation of polyadenylated mitochondrial transcripts in *Arabidopsis thaliana*. *PLoS One*, **3**, e2889.

16. Cuéllar Pérez,A., Nagels Durand,A., Vanden Bossche,R., De Clercq,R., Persiau,G., Van Wees,S.C.M., Pieterse,C.M.J., Gevaert,K., De Jaeger,G., Goossens,A., et al. (2014) The non-JAZ TIFY protein TIFY8 from *Arabidopsis thaliana* is a transcriptional repressor. PLoS One, 9, e84891.
17. Banerjee,J., Sahoo,D.K., Dey,N., Houtz,R.L. and Maiti,I.B. (2013) An intergenic region shared by At4g35985 and At4g35987 in Arabidopsis thaliana is a tissue specific and stress inducible bidirectional promoter analyzed in transgenic Arabidopsis and tobacco plants. *PLoS One*, **8**, e79622.
18. Nie,S. and Xu,H. (2016) Riboflavin-induced disease resistance requires the mitogen-activated protein kinases 3 and 6 in *Arabidopsis thaliana*. *PLoS One*, **11**, e0153175.
19. Koryachko,A., Matthiadis,A., Muhammad,D., Foret,J., Brady,S.M., Ducoste,J.J., Tuck,J., Long,T.A. and Williams,C. (2015) Clustering and Differential Alignment Algorithm: Identification of early stage regulators in the *Arabidopsis thaliana* iron deficiency response. *PLoS One*, **10**, e0136591.
20. Zhao,Y., Xu,T., Shen,C.Y., Xu,G.H., Chen,S.X., Song,L.Z., Li,M.J., Wang,L.L., Zhu,Y., Lv,W.T., *et al.* (2014) Identification of a retroelement from the resurrection plant Boea hygrometrica that confers osmotic and alkaline tolerance in *Arabidopsis thaliana*. *PLoS One*, **9**, e98098.
21. Naznin,H., Kiyohara,D., Kimura,M., Miyazawa,M., Shimizu,M. and Hyakumachi,M. (2014) Systemic resistance induced by volatile organic compounds emitted by plant growth-promoting fungi in *Arabidopsis thaliana*. *PLoS One*, **9**, e86882.
22. Markakis,M.N., Boron,A.K., Van Loock,B., Saini,K., Cirera,S., Verbelen,J.-P. and Vissenberg,K. (2013) Characterization of a small auxin-up RNA (SAUR)-like gene involved in *Arabidopsis thaliana* development. *PLoS One*, **8**, e82596.
23. Poupin,M.J., Timmermann,T., Vega,A., Zuñiga,A. and González,B. (2013) Effects of the plant growth-promoting bacterium *Burkholderia phytofirmans* PsJN throughout the life cycle of *Arabidopsis thaliana*. *PLoS One*, **8**, e69435.
24. Leviatan,N., Alkan,N., Leshkowitz,D. and Fluhr,R. (2013) Genome-wide survey of cold stress regulated alternative splicing in *Arabidopsis thaliana* with tiling microarray. *PLoS One*, **8**, e66511.
25. Geiselhardt,S., Yoneya,K., Blenn,B., Drechsler,N., Gershenzon,J., Kunze,R. and Hilker,M. (2013) Egg laying of cabbage white butterfly (*Pieris brassicae*) on *Arabidopsis thaliana* affects subsequent performance of the larvae. *PLoS One*, **8**, e59661.
26. Zhu,W., Miao,Q., Sun,D., Yang,G., Wu,C., Huang,J. and Zheng,C. (2012) The mitochondrial phosphate transporters modulate plant responses to salt stress via affecting ATP and gibberellin metabolism in *Arabidopsis thaliana*. *PLoS One*, **7**, e43530.
27. Dechorgnat,J., Patrit,O., Krapp,A., Fagard,M. and Daniel-Vedele,F. (2012) Characterization of the Nrt2.6 gene in *Arabidopsis thaliana*: A link with plant response to biotic and abiotic stress. *PLoS One*, **7**, e42491.
28. Martínez-Silva,A.V., Aguirre-Martínez,C., Flores-Tinoco,C.E., Alejandri-Ramírez,N.D. and Dinkova,T.D. (2012) Translation initiation factor ateiF(iso)4E is involved in selective mRNA translation in *Arabidopsis thaliana* seedlings. *PLoS One*, **7**, e31606.

29. Floerl,S., Majcherczyk,A., Possienke,M., Feussner,K., Tappe,H., Gatz,C., Feussner,I., Kües,U. and Polle,A. (2012) Verticillium longisporum infection affects the leaf apoplastic

proteome, metabolome, and cell wall properties in *Arabidopsis thaliana*. *PLoS One*, **7**, e31435.

30. 1. Hossain,Z., Amyot,L., McGarvey,B., Gruber,M., Jung,J. and Hannoufa,A. (2012) The translation elongation factor eEF-1Bβ1 is involved in cell wall biosynthesis and plant development in *Arabidopsis thaliana*. PLoS One, 7, e30425.
31. Schwachtje,J., Karojet,S., Thormahlen,I., Bernholz,C., Kunz,S., Brouwer,S., Schwochow,M., Kohl,K. and van Dongen,J.T. (2011) A naturally associated rhizobacterium of *Arabidopsis thaliana* induces a starvation-like transcriptional response while promoting growth. *PLoS One*, **6**, e29382.
32. Méndez-Bravo,A., Calderón-Vázquez,C., Ibarra-Laclette,E., Raya-González,J., Ramírez-Chávez,E., Molina-Torres,J., Guevara-García,A.A., López-Bucio,J. and Herrera-Estrella,L. (2011) Alkamides activate jasmonic acid biosynthesis and signaling pathways and confer resistance to *Botrytis cinerea* in *Arabidopsis thaliana*. *PLoS One*, **6**, e27251.
33. Hu,J., Barlet,X., Deslandes,L., Hirsch,J., Feng,D.X., Somssich,I. and Marco,Y. (2008) Transcriptional responses of *Arabidopsis thaliana* during wilt disease caused by the soil-borne phytopathogenic bacterium, *Ralstonia solanacearum*. *PLoS One*, **3**, e2589.
34. Perchepied,L., Kroj,T., Tronchet,M., Loudet,O. and Roby,D. (2006) Natural variation in partial resistance to Pseudomonas syringae is controlled by two major QTLs in *Arabidopsis thaliana*. *PLoS One*, **1**, e123.
35. Zavallo,D., Debat,H.J., Conti,G., Manacorda,C.A., Rodriguez,M.C. and Asurmendi,S. (2015) Differential mRNA accumulation upon early *Arabidopsis thaliana* infection with ORMV and TMV-Cg is associated with distinct endogenous small RNAs level. *PLoS One*, **10**, e0134719.
36. Arnold,M.D., Gruber,C., Flokova,K., Miersch,O., Strnad,M., Novak,O., Wasternack,C. and Hause,B. (2016) The recently identified isoleucine conjugate of cis-12-Oxo-phytodienoic acid is partially active in cis-12-Oxo-Phytodienoic acid-specific gene expression of *Arabidopsis thaliana*. *PLoS One*, **11**, e0162829.
37. Morineau,C., Gissot,L., Bellec,Y., Hematy,K., Tellier,F., Renne,C., Haslam,R., Beaudoin,F., Napier,J. and Faure,J.D. (2016) Dual fatty acid elongase complex interactions in Arabidopsis. *PLoS One*, **11**, e0160631.
38. Coustham,V., Vlad,D., Deremetz,A., Gy,I., Cubillos,F.A., Kerdaffrec,E., Loudet,O. and Bouché,N. (2014) SHOOT GROWTH1 maintains Arabidopsis epigenomes by regulating IBM1. *PLoS One*, **9**, e84687.
39. Mangeon,A., Pardal,R., Menezes-Salgueiro,A.D., Duarte,G.L., De Seixas,R., Cruz,F.P., Cardeal,V., Magioli,C., Ricachenevsky,F.K., Margis,R., *et al.* (2016) AtGRP3 is implicated in root size and aluminum response pathways in Arabidopsis. *PLoS One*, **11**, e0150583.
40. Narukawa,H., Yokoyama,R., Komaki,S., Sugimoto,K. and Nishitani,K. (2015) Stimulation of cell elongation by tetraploidy in hypocotyls of dark-grown Arabidopsis seedlings. *PLoS One*, **10**, e0134547.
41. Hunter,L.J., Westwood,J.H., Heath,G., Macaulay,K., Smith,A.G., Macfarlane,S.A., Palukaitis,P. and Carr,J.P. (2013) Regulation of RNA-dependent RNA polymerase 1 and isochorismate synthase gene expression in Arabidopsis. *PLoS One*, **8**, e66530.

42. Berdasco,M., Alcázar,R., García-Ortiz,M.V., Ballestar,E., Fernández,A.F., Roldán-Arjona,T., Tiburcio,A.F., Altabella,T., Buisine,N., Quesneville,H., *et al.* (2008) Promoter DNA hypermethylation and gene repression in undifferentiated arabidopsis cells. *PLoS One*, **3**, e3306.
43. Sham,A., Moustafa,K., Al-Shamisi,S., Alyan,S., Iratni,R. and AbuQamar,S. (2017) Microarray analysis of Arabidopsis WRKY33 mutants in response to the necrotrophic fungus Botrytis cinerea. *PLoS One*, **12**, e0172343.
44. Yángüez,E., Castro-Sanz,A.B., Fernández-Bautista,N., Oliveros,J.C. and Castellano,M.M. (2013) Analysis of genome-wide changes in the translatome of Arabidopsis seedlings subjected to heat stress. *PLoS One*, **8**, e71425.
45. Sulmon,C., Gouesbet,G., Ramel,F., Cabello-Hurtado,F., Penno,C., Bechtold,N., Couée,I. and El Amrani,A. (2011) Carbon dynamics, development and stress responses in arabidopsis: Involvement of the APL4 subunit of ADP-glucose pyrophosphorylase (starch synthesis). *PLoS One*, **6**, e26855.
46. Sun,Y., Kong,X., Li,C., Liu,Y. and Ding,Z. (2015) Potassium retention under salt stress is associated with natural variation in salinity tolerance among Arabidopsis accessions. *PLoS One*, **10**, e0124032.
47. Yang,S., Luo,C., Song,Y. and Wang,J. (2016) Two groups of *Thellungiella salsuginea* RAVs exhibit distinct responses and sensitivity to salt and ABA in transgenic Arabidopsis. *PLoS One*, **11**, e0153517.
48. Zhu,L., Shan,H., Chen,S., Jiang,J., Gu,C., Zhou,G., Chen,Y., Song,A. and Chen,F. (2013) The heterologous expression of the Chrysanthemum R2R3-MYB transcription factor CmMYB1 alters lignin composition and represses flavonoid synthesis in *Arabidopsis thaliana*. PLoS One, 8, e65680.
49. Nie,H., Liu,C., Cheng,T., Li,Q., Wu,Y., Zhou,M., Zhang,Y. and Xia,Q. (2014) Transcriptome analysis of integument differentially expressed genes in the pigment mutant (quail) during molting of silkworm, *Bombyx mori*. *PLoS One*, **9**, e94185.
50. He,S., Tong,X., Lu,K., Lu,Y., Luo,J., Yang,W., Chen,M., Han,M.J., Hu,H., Lu,C., *et al.* (2016) Comparative analysis of transcriptomes among *Bombyx mori* strains and sexes reveals the genes regulating melanic morph and the related phenotypes. *PLoS One*, **11**, e0155061.
51. Ma,Z., Li,C., Pan,G., Li,Z., Han,B., Xu,J., Lan,X., Chen,J., Yang,D., Chen,Q., *et al.* (2013) Genome-wide transcriptional response of silkworm (*Bombyx mori*) to infection by the microsporidian *Nosema bombycis*. *PLoS One*, **8**, e84137.
52. Chen,A., Liao,P., Li,Q., Zhao,Q., Yang,W., Zhu,S., Wu,F., He,R., Dong,Z. and Huang,P. (2015) The structural variation is associated with the embryonic lethality of a novel red egg mutant fuyin-lre of silkworm, *Bombyx mori*. *PLoS One*, **10**, e0128211.
53. Nie,H., Liu,C., Zhang,Y., Zhou,M., Huang,X., Peng,L. and Xia,Q. (2014) Transcriptome analysis of neonatal larvae after hyperthermia-induced seizures in the contractile silkworm, *Bombyx mori*. *PLoS One*, **9**, e113214.
54. Kolliopoulou,A., Van Nieuwerburgh,F., Stravopodis,D.J., Deforce,D., Swevers,L. and Smagghe,G. (2015) Transcriptome analysis of *Bombyx mori* larval midgut during persistent and pathogenic cytoplasmic polyhedrosis virus infection. *PLoS One*, **10**, e0121447.

55. Li,J., Qin,S., Yu,H., Zhang,J., Liu,N., Yu,Y., Hou,C. and Li,M. (2016) Comparative transcriptome analysis reveals different silk yields of two silkworm strains. *PLoS One*, **11**, e0155329.