

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
B01	BM146	281	58	F	GAG ATG AGT CCT TTC CCT ACC C	2	AF483862
				R	TGC AGA CAC AAT TTA TGA AGG C		
	BM157	113	52	F	ACT TAA CAA GGA ATA GCC ACA CA	2	AF483873,Also in B10
				R	GTT AAT TGT TTC CAA TAT CAA CCT G		
	BMd-10	139	47	F	GCT CAC GTA CGA GTT GAA TCT CAG	3	X13329
				R	ATC TGA GAG CAG CGA CAT GGT AG		
	PV-ag003	164	49	F	TCA CGT ACG AGT TGA ATC TCA GGA T	1	X04001
				R	GGT GTC GGA GAG GTT AAG GTT G		
	BM53	287	55	F	AAC TAA CCT CAT ACG ACA TGA AA	2	AF483849
				R	AAT GCT TGC ACT AGG GAG TT		
	BM200	221	52	F	TGG TGG TTG TTA TGG GAG AAG	2	AF483897
				R	ATT TGT CTC TGT CTA TTC CCA C		
	BMd-45	129	47	F	GGT TGG GAA GCC TCA TAC AG	3	AF293023
				R	ATC TTC GAC CCA CCT TGC T		
	PVBR31	204	56	F	AAT GGC AGG TCA GTG AAA CA	9	BV686603
				R	ATG ACC ACG CAG TGA CAG AG		
	PVBR54	191	54	F	CGT CTA GGG ACG AAA CGA AA	9	BV686607
				R	CCC CCT TCA GAC TCT CCA AT		
	PVBR107	150	53	F	CCC CTT TCT CAC CAC TTC AG	9	BV686495
				R	ACC AAA AAC GGT GCT CAA AC		
	PVBR133	204	56	F	CGG GGT CGG AGA AGA TAA GT	9	BV686502
				R	CCC GAA TCA AAG ATC TGC AA		
	PVBR139	206	56	F	GGT TGT GCT TGT GTT GTT GG	9	BV686503
				R	TGA AGT TGC AGC TAG GTT GG		
	PVBR218	185	56	F	TGT AAA TGG CAG GCA GTG AA	9	BV686520
				R	ATG ACC ACG CAG TGA CAG AG		
	PVBR233	220	56	F	AGA GAG GGT TGT GGT TGG TG	9	BV686523
				R	TTA ATC CCG CTT TAC GCA AC		
	PVBR250	222	56	F	GGT GGA GAG TGG TGG ACA GT	9	BV686528
				R	CGA AAC CCT ACC ACT TTT TCC		
	PVBR251	204	56	F	TGA AGT TGC AGC TAG GTT GG	9	BV686529
				R	GGT TGT GCT TGT GTT GTT GG		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
B02	PV-at006	132	50	F	CCG TTG CCT GTA TTT CCC CAT	1	X74919, Also in B5
				R	CGT GTG AAG TCA TCT GGA GTG GTC		
	PV-gccacc001	95	48	F	CGT TAG ATC CCG CCC AAT AGT	1	U77935
				R	CCG TCC AGG AAG AGC GAG C		
	PV-gaat002	167	50	F	AAA CAC ACA AAA AGT TGG ACG CAC	1	X59469
				R	TTC GTG AGG TAG GAG TTT GGT GG		
	BMd-17	116	47	F	GTT AGA TCC CGC CCA ATA GTC	3	U77935
				R	AGA TAG GAA GGG CGT GGT TT		
	BMd-19	154	47	F	GCC AAC CAC ATT CTT CCC TAC	3	X59469
				R	GGA AGC GAG GCA GTT ATC TTT		
	BMd-47	150	47	F	ACC TGG TCC CTC AAA CCA AT	3	AF350505
				R	CAA TGG AGC ACC AAA GAT CA		
	BMd-18	156	47	F	AAA GTT GGA CGC ACT GTG ATT	3	X59469
				R	TCG TGA GGT AGG AGT TTG GTG		
	BM139	115	50	F	TTA GCA ATA CCG CCA TGA GAG	2	AF483857
				R	ACT GTA GCT CAA ACA GGG CAC		
	BM167	165	50	F	TCC TCA ATA CTA CAT CGT GTG ACC	2	AF483881
				R	CCT GGT GTA ACC CTC GTA ACA G		
	BM164	182	52	F	CCA CCA CAA GGA GAA GCA AC	2	AF483878
				R	ACC ATT CAG GCC GAT ACT CC		
	BM143	143	55	F	GGG AAA TGA ACA GAG GAA A	2	AF483861
				R	ATG TTG GGA ACT TTT AGT GTG		
	BM142	157	55	F	TTC CGC TGA TTG GAT ATT AGA G	2	AF483860
				R	AGC CCG TTC CTT CGT TTA G		
	BMd-7	166	47	F	GGA TAT GGT GGT GAT CAA GGA	3	X13596
				R	CAT ACC CAA TGC CAT GTT CTC		
	BMd-2	106	47	F	AGC GAC AGC AAG AGA ACC TC	3	U18349
				R	CAA CAA ACG GTG ATT GAC CA		
	GATS91	229	53	F	GAG TGC GGA AGC GAG TAG AG	2	AF483842
				R	TCC GTG TTC CTC TGT CTG TG		
	BM152	127	50	F	AAG AGG AGG TCG AAA CCT TAA ATC G	2	AF483868
				R	CCG GGA CTT GCC AGA AGA AC		
	BM156	267	52	F	CTT GTT CCA CCT CCC ATC ATA GC	2	AF483872
				R	TGC TTG CAT CTC AGC CAG AAT C		
	BM236			F		6	
				R			
	PVBR78	167	58	F	AAT TCG TGT CCT CTG TCT GTG	9	BV686485
				R	ACG ACG GAG AGA GAG GTT GA		
	PVBR94	165	58	F	ACG ACG GAG AGA GAG GTT GA	9	BV686491
				R	CCG TGT TCC TTC TGT CTG TG		
	PVBR106	209	56	F	CAA CAA ACA AGG CTG AAA AAC A	9	BV686494
				R	AAA AAG AGA GGA GAG AGA AGA GAG C		
	PVBR125	190	56	F	GGA GCG AGA GAA AAT CGA AA	9	BV686499
				R	CTG AGA CGC AGA GCA GAC AC		
	PVBR188	188	56	F	GGA GCG AGA GAA AAT CGA AA	9	BV686514
				R	CTG AGA CGC AGA GCA GAC AC		
	PVBR213	163	53	F	ACA ATG TAG ACA GCG CAG CA	9	BV686518
				R	GCT CTT TCT CCT CCC ATC CT		
	PVBR243	236	56	F	TCT GTC TGT GTA TAA ACA CCG TTT T	9	BV686527
				R	TGC GGA AGC GAG TAT AGA GG		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
B03	VA-ag001	163	48	F	GGG TAG TAA AGG AAA GAG AAG AAA GAG	1	M99497
				R	CCA CCT TCT CGT ACT GTT CCA TG		
	PV-at008	161	49	F	AGT CGC CAT AGT TGA AAT TTA GGT G	1	X96999
				R	CTT ATT AAA ACG TGA GCA TAT GTA TCA TTC		
	BM172	107	50	F	CTG TAG CTC AAA CAG GGC ACT	2	AF483884
			R	GCA ATA CCG CCA TGA GAG AT			
	BMd-36	164	47	F	CAT AAC ATC GAA GCC TCA CAG T	3	AY298744
				R	ACG TGC GTA CGA ATA CTC AGT C		
	BM197	201	54	F	TGG ACT GGT CGA TAC GAA GC	2	AF483895
			R	CCC AGA AGA TTG AGA ACA CCA C			
	BM181	192	50	F	ATG CTG CGA GTT AAT GAT CG	2	AF483887
			R	TGA GGA GCA AAC AGA TGA GG			
	BM98	247	55	F	GCA TCA CAA AGG ACT GAG AGC	2	AF483853
				R	CCC AAG CAA AGA GTC GAT TT		
	GATS54	114	50	F	GAA CCT GCA AAG CAA AGA AGC	2	AF483841
			R	TCA CTC TTC AAC CAG ATC GAA			
	BM159	198	52	F	GGT GCT GTT GCT GCT GTT AT	2	AF483875
				R	GGG AGA TGT GGT AAG ATA ATG AAA		
	BMd-1	165	47	F	CAA ATC GCA ACA CCT CAC AA	3	X96999
				R	GTC GGA GCC ATC ATC TGT TT		
	AG1	132	52	F	CAT GCA GAG GAA GCA GAG TG	2	AF483839
				R	GAG CGT CGT CGT TTC GAT		
	BMc179			F		6	
				R			
	PVBR87	163	56	F	CTC ATT GCG TCT ACC AGT GC	9	BV686488
				R	CCT AGG TTC CGC AGC ATG T		
	PVBR109	150	58	F	GGCTGGAAAACCTACCAATGC	9	BV686496
				R	CGCTATTGTCGTGCAGTTTC		
	PVBR131	198	56	F	GCG TCT GAG GAG AAG GAG GT	9	BV686501
				R	CTC CCA ATC TCA CCA AAA CC		
	PVBR235	188	56	F	CAC GGT GAA CCA GAG TCT CA	9	BV686524
				R	CCA CGA CTC TCT TGC TCT TG		
	PVBR255	177	56	F	GCC CTT AAC GTT GGA GTC AA	9	BV686530
				R	TTG CCC CTT TCA GAT AAA CG		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
B04	PV-atgc001	126	49	F	TGC CAC CAC AGC TTT CTC CTC	1	K03288
				R	TAT GAG AGA AGC GGT TGG CAC G		
	PV-atgc002	144	49	F	AGC TTT CAC ACT ATG ACA CCA CTG G	1	K03289
R				TGC GAC ATG AGA GAA AGA CAC GG			
	PV-ag004	201	48	F	TTG ATG ACG TGG ATG CAT TGC	1	X04660
R				AAA GGG CTA GGG AGA GTA AGT TGG			
	PV-gaat001	164	49	F	AAG GAT GGG TTC CGT GCT TG	1	X57022
R				CAC GGT ACA CGA AAC CAT GCT ATC			
	PV-at003	139	49	F	ACC TAG AGC CTA ATC CTT CTG CGT	1	X60000
R				GAA TGT GAA TAT CAG AAA GCA AAT GG			
	PV-ctt001	152	48	F	CCA ACC ACA TTC TTC CCT ACG TC	1	J04555
R				GCG AGG CAG TTA TCT TTA GGA GTG			
	BMd-15	166	47	F	TTG CCA TCG TTG CTT AAT TG	3	K03288
R				TTG GAG GAA GCC ATG TAT GC			
	BMd-16	136	47	F	ATG ACA CCA CTG GCC ATA CA	3	K03289
R				GCA CTG CGA CAT GAG AGA AA			
	BMd-9	135	47	F	TAT GAC ACC ACT GGC CAT ACA	3	X06336
R				CAC TGC GAC ATG AGA GAA AGA			
	BMd-26	141	47	F	CTT GCC TTG TGC TTC CTT CT	3	U12927
R				TCC ATT CCC AAC CAA GTT TC			
	BM140	190	55	F	TGC ACA ACA CAC ATT TAG TGA C	2	AF483858
R				CCT ACC AAG ATT GAT TTA TGG G			
	PV-at001	239	47	F	GGG AGG GTA GGG AAG CAG TG	1	U18791, Also in B11
R				GCG AAC CAC GTT CAT GAA TGA			
	BM68	170	56	F	TTC GTT CAC AAC CTC TTG CAT T	2	AF483851
R				TGC TTG TTA TCT TGC CCA CTG			
	BM199	304	56	F	AAG GAG AAT CAG AGA AGC CAA AAG	2	AF483896
R				TGA GGA ATG GAT GTA GCT CAG G			
	BM161	185	52	F	TGC AAA GGG TTG AAA GTT GAG AG	2	AF483877
R				TTC CAA TGC ACC AGA CAT TCC			
	PVBR92	173	46	F	AAT ATT GGG GGC AAC ATT CA	9	BV686489
R				GCC ATC AAC AGA ACC GAT CA			
	PVBR112	183	58	F	AAC AAC ACC ACC CTG GAG AC	9	BV686497
R				ACA AAA AGC GAG GAA TCA CG			
	PVBR128	247	56	F	GAA GAG CTC TCA TCG CAA CG	9	BV686500
R				CTA GCT CCC TCC CCT CGT AA			
	PVBR182	164	53	F	CGC GCA CGT AGG TAC TAC AA	9	BV686512
R				CAA CAA CAC CAC CCT GAG AC			

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
B05	PV-at006b	132	50	F	CCG TTG CCT GTA TTT CCC CAT	1	X74919, Also in B2
				R	CGT GTG AAG TCA TCT GGA GTG GTC		
	BMd-53	105	47	F	TGC TGA CCA AGG AAA TTC AG	3	AF324244
				R	GGA GGA GGC TTA AGC ACA AA		
	BM175	170	50	F	CAA CAG TTA AAG GTC GTC AAA TT	2	AF483886
				R	CCA CTC TTA GCA TCA ACT GGA		
	BMd-20	123	47	F	GTT GCC ACC GGT GAT AAT CT	3	X74919
				R	GTG AGG CAA GAA GCC TTC AA		
	BM155	114	50	F	GTT CAT GTT TGT TTG ACA GTT CA	2	AF483871
				R	CAG AAG TTA GTG TTG GTT TGA TAC A		
	BMd-50	124	47	F	TGG TGA GAG AAG GAC AAT AGC A	3	AF285172
				R	GCC GCT TGT GAC GTT TAT TT		
	BMd-28b	151	47	F	TGC ATC AAC TTT AGG AGC TTG	3	Z30345
				R	TCT TGT CTT ATC AGC AGG TGG A		
	BMd-28a	151	47	F	TGC ATC AAC TTT AGG AGC TTG	3	Z30345
				R	TCT TGT CTT ATC AGC AGG TGG A		
	BM138	203	50	F	TGT CCC TAA GAA CGA ATA TGG AAT C	2	AF483856
				R	GAA TCA AGC AAC CTT GGA TCA TAA C		
	PVBR61	212	56	F	GAT GCT GGC CTC TTT GTA GC	9	BV686482
				R	CAC ACC CCT CTG CTT TCT TC		
	PVBR69	210	53	F	GAT GCT GGC CTC TTT GTA GC	9	BV686484
				R	CAC CCC TCT GTG TTT TTC TCC		
	PVBR82	182	56	F	CCC AAA GAG AAT GCA AGG TT	9	BV686486
				R	GCT TCC CTT TCA ACG ACA TC		
	PVBR93	171	56	F	TGG GGT GAG AGA GAA AGG TG	9	BV686490
				R	TAC CAT AGC AGG CGT TGT TG		
	PVBR124	162	56	F	CCT AAA AAC CAG GTG CGA GA	9	BV686601
				R	TGG GAA ACC TAG CCA AAC AC		
	PVBR229	225	56	F	TTG GCT TTC TCT TTC CTC TCT C	9	BV686522
				R	GAT TGA GAT GGA AAG GCT ACA T		
	PVBR236	232	56	F	TGT GAC GGA TCT CGT TGA AG	9	BV686525
				R	TGT CCC GAT TCA TTG ATG TG		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
B06	PV-at004	163	47	F	AAT CTG CCG AGA GTG GTC CTG CC	1	X61293
				R	GAT TGA AAT ATC AAA GAG AAT TGT TAC		
	BMd-37	134	47	F	GGC ACG AGC AAC AAT CCT T	3	AY007525
				R	CCA TCA TAG AGG GCA ACC AC		
	BM170	179	50	F	AGC CAG GTG CAA GAC CTT AG	2	AF483882
				R	AGA TAG GGA GCT GGT GGT AGC		
	BM137	155	55	F	CCG TAT CCG AGC ACC GTA AC	2	AF483855
				R	CGC TTA CTC ACT GTA CGC ACG		
	BMd-12	167	47	F	CAT CAA CAA GGA CAG CCT CA	3	AZ044945
				R	GCA GCT GGC GGT AAA ACA G		
	BM158	130	52	F	CCG AGC ACC GTA ACT GAA TGC	2	AF483874
				R	CGC TCG CTT ACT CAC TGT ACG C		
	BMc128			F		6	
				R			
	BM218			F		6	
				R			
	PVBR163	217	56	F	TGA GAG TGG AGA AGG AGA GAG A	9	BV686505
				R	TGA CAA CAC TGC AAA CAC CA		
	PVBR198	222	56	F	GCA AGG AAG CCA TAG ACC AC	9	BV686515
				R	AGA AGC CCA GTC CAA AGA CA		
	Pv-tg01bng95	238	55	F	AGC CTG AAC CGA GAG GAA GT	13	
				R	GAG CTC AAC ATT CCA GAG GC		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
B07	BM210	166	52	F	ACC ACT GCA ATC CTC ATC TTT G	2	AF483902
				R	CCC TCA TCC TCC ATT CTT ATC G		
	BMd-40	197	47	F	AAC CTT CTT GCG CTG ATC TC	3	AZ301605
				R	TAG TGG CCA TTC CTC GAT CT		
	BM183	149	52	F	CTC AAA TCT ATT CAC TGG TCA GC	2	AF483888
				R	TCT TAC AGC CTT GCA GAC ATC		
	BM160	211	52	F	CGT GCT TGG CGA ATA GCT TTG	2	AF483876
				R	CGC GGT TCT GAT CGT GAC TTC		
	BM150	196	50	F	CGA ACT ATT TGA TAC TCA TGT GC	2	AF483866
				R	TTG CAG GAC AGA TAA GTT AGA AGA		
	BM201	102	50	F	TGG TGC TAC AGA CTT GAT GG	2	AF483898
				R	TGT CAC CTC TCT CCT CCA AT		
	BM185	105	52	F	AAG GAG GTT TCT ACC TAA TTC C	2	AF483890
				R	AAA GCA GGG ATG TAG TTG C		
	BM205a	137	50	F	CTA GAC CAG GCA AAG CAA GC	2	AF483900, Also in B11
				R	TGA GCT GGG ATT TCA TTT CTG		
	BM209	129	56	F	CAA CCA ATG AAT GCT GAC AAT G	2	AF483901
				R	CAA TTT CTT GAT TGA AAG GCA AT		
	PV-tttc001	161	50	F	TTT ACG CAC CGC AGC ACC AC	1	X53603
				R	TGG ACT CAT AGA GGC GCA GAA AG		
	PVBR46	188	48	F	CCT TGG AAA CAT CAG GGT GA	9	BV686606
				R	CGT TTT CCC CAG GTC TTT TT		
	PVBR35	214	56	F	TCT ACG CGT TCC CTC TGT CT	9	BV686604
				R	AGT GGA TGT GTG GGA AAA GC		
	PVBR167	158	56	F	GGC AAA AAC AAA ACC ATT TCA	9	BV686506
				R	GCC ATT TCT CCA CTG TCT GG		
	PVBR242	117	48	F	CCT TCA CAC CCT TTT CTG ATT C	9	BV686526
				R	GGG TTT CCT TCT TGG TCT CC		
	PVBR269	167	56	F	TCG CCC CAT ATT CAC TTT TC	9	BV686532
				R	TGG TGT GCA GAA AGT CTG TGA		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
B08	BM211	186	52	F	ATA CCC ACA TGC ACA AGT TTG G	2	AF483903
				R	CCA CCA TGT GCT CAT GAA GAT		
	BMd-25	118	47	F	GCA GAT CGC CTA CTC ACA AA	3	L47221
R				CGT TGA CGA GAA GCA TCA AG			
	BMd-44	135	47	F	GGC AGC TTA CTA ACC CGA AA	3	AZ301573
R				TTC CTT CCC CTT TCT TCT CC			
	BM189	114	50	F	CTC CCA CTC TCA CCC TCA CT	2	AF483893
R				GCG CCA AGT GAA ACT AAG TAG A			
	BM151	153	50	F	CAC AAC AAG AAA GAC CTC CT	2	AF483867
R				TTA TGT ATT AGA CCA CAT TAC TTC C			
	PV-attt001	165	48	F	CAA AAA GAA CAT AAT CAG AA	4	
R				CTT AGT TGT ATT GAT TTG GA			
	PV-catt001	193	48	F	AGG GTG TCA TAG ATT AGA TAG	4	
R				GAG ATC CTT ATA TTG TAA TGT G			
	PV-ct001	248	48	F	GAT ACT ATC AAG ACA CGA TTA C	4	
R				GTA TAT ACA CTG AAG CAA TAA GT			
	PV-ag006	210	47	F	ATA TAA ATA CTA GGA CGA TGA C	4	
R				ATA TTG ACT TAT GAG TAT CTG AG			
	PV-att001	295	49	F	GTT TCT ATA ATT TTC TCA CTT AAC	4	
R				GTA TCA TTT ATG TTG TAT TCC T			
	PV-aaat002	238	48	F	AGG AAT ACA ACA TAA ATG ATA C	4	
R				GAT ACT CAA AGT AAA ATT GGT			
	PV-at010	171	48	F	AGA CTC ACG TTT CTT ATT TT	4	
R				GAC TTA ATC TTA TAT GGG ACA T			
	PV-gtat001	272	49	F	ACG TGT CCT ATA GTT TGT TAC	4	
R				CTT TTA CTC AGG TTC TCT TTA			
	PV-taa002	300	48	F	AAG ATA ATC CTA AGA GGT GA	4	
R				GTT ATA ATC CGA TCA TGT TT			
	PV-taaa003	221	46	F	GTC AAT ATA AAT TAT TGT AAG C	4	
R				GAT TTA GTT TGA TTT ATT GTG T			
	PV-ttc001	192	47	F	ATA TTT AGT GGA CTG TCA AA	4	
R				GTT ATC AAA TGT AAA GGG AT			
	PV-ttc002	203	51	F	ATA TCT TAC AGC CAT TAC ATT C	4	
R				CTC ATC ACC CAG TCA CCT			
	PV-aat002	121	48	F	TCC TAA TTA TTT ATG GTA AGA G	4	
R				CAA TTG TAT ATA GAG TCA ACT AAA			
	PV-ct002	122	48	F	TTA GAC TTT CAA ACA TTC AC	4	
R				GAT ACT ACT TAA ATG AGG AAC A			
	PV-taaaa001	221	49	F	GTC AAT ATA AAT TAT TGT AAG CA	4	
R				GAT TTA GTT TGA TTT ATT GTG T			
	PV-at011	293	48	F	TAT ACA ACG GGA GAT ATT TA	4	
R				TGG TTA TTA AGA AGC TAA GAC			
	PV-att003	237	47	F	AAT CCT ACA AAT TAT GGC	4	
R				TCA CTA AAG AGA TAT GAA CTA AC			
	PV-taca001	220	48	F	CTT TCC TTG AGT ATT AAG AAG	4	
R				GAC TAT TCT AAA ATC TTC TCC T			
	PV-ag007	187	48	F	AGA TGA TAA CTG GTC TGA GT	4	
R				TTT CTT AAA CAC TGA TGA TG			
	PV-att004	298	49	F	TAC TGT CCT TTC TTT TTC TC	4	
R				CAT ACG GAG ATA TTT ACT CAT A			
	PV-tggt001	244	48	F	ATA TTA ACA GTC TTA CCT TGG	4	
R				TTT GGT AAA TAA GTG ATG TC			

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
B08	BM229			F		6	
				R			
	BM238			F		6	
				R			
	BMc121			F		6	
				R			
	BMc222			F		6	
				R			
	PVBR45	155	56	F	CGA TTG AAC GCA CTC TAC GA	9	BV686605
				R	GAG GCT GGT TCC TTC AAA CA		
	PVBR53	165	56	F	GATCCTTTCCCACAAAACA	9	BV686610
				R	GGGGAAAATGGCAAAGAAGT		
	PVBR83	163	56	F	GTC TGT ATC GAA GCC GAG GA	9	BV686487
				R	CTT ATG CGT AGC ATG GAG GA		
PVBR102	181	56	F	TGA GGA TCC TTT ACC CCA CA	9	BV686493	
			R	GCC ATC ATA AGG GGG AAA AT			
PVBR173	219	56	F	TCG AGA TGG ATT GAA AAC GA	9	BV686510	
			R	CTC TCC CCG CAA AAC ACA C			

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
B09	PV-at007	192	49	F	AGT TAA ATT ATA CGA GGT TAG CCT AAA TC	1	X80051
				R	CAT TCC CTT CAC ACA TTC ACC G		
	BM114	234	50	F	AGC CTG GTG AAA TGC TCA TAG	2	AF483854
				R	CAT GCT TGT TGC CTA ACT CTC T		
	BM141	218	55	F	TGA GGA GGA ACA ATG GTG GC	2	AF483859
				R	CTC ACA AAC CAC AAC GCA CC		
	BMd-46	158	47	F	GGC TGA CAA CAA CTC TGC AC	3	AF293404
				R	CTG GCA TAG GTT GCT CCT TC		
	BM154	218	50	F	TCT TGC GAC CGA GCT TCT CC	2	AF483870
				R	CTG AAT CTG GGA ACG ATG ACC AG		
	BMd-52	151	47	F	TCT TGG TGC GCA GAA AGT TA	3	AF325187
				R	AAG GCT TTG TTT TGA TTA AGG TT		
	BM184	160	52	F	AGT GCT CTA TCA AGA TGT GTG	2	AF483889,Also in B11
				R	ACA TAA TCA ATG GGT CAC TG		
	BM188	177	58	F	TCG CCT TGA AAC TTC TTG TAT C	2	AF483892
				R	CCC TTC CAG TTA AAT CAG TCG		
	PVBR60	171	53	F	CTT AAC AAC CCC TCC GAC AA	9	BV686608
				R	AGT GTG AAA ACC GCC CTC T		
	PVBR101	150	58	F	TGC ACG ACA CGT AGC ACA TA	9	BV686492
				R	GCG TGG TGT GCA GTT AGA GA		
	PVBR149	235	56	F	CAT TGG GGA ACT ATC AAC AGG	9	BV686504
				R	ATC AGG AAG GAT GCT GAT GG		
	PVBR168	190	56	F	CAC CGA GCG TGA GTG AGT AA	9	BV686507
				R	CAA CAC CAT TTG CAA CAA AGA		
	PVBR172	232	53	F	TTT CTC TTT CCT CTC TCT CTC CT	9	BV686509
				R	GAG ACG TAT TGA TAG ATT GAG ATG G		
	PVBR191	150	56	F	AAT TTT GAA CTG AAA GAT AAC AAA GC	9	BV686602
				R	CGC TTC ATT CAA CTC CGA AA		
	PVBR228	188	56	F	TGC AGG TTG CAA GTA GCA GT	9	BV686521
				R	GCG AGG AGA GAA AGA GAA A		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
B10	BMd-42	149	47	F	TCA TAG AAG ATT TGT GGA AGC A	3	AZ301511
				R	TGA GAC ACG TAC GAG GCT GTA T		
	BM212	214	50	F	AGG AAG GGA TCC AAA GTC ACT C	2	AF483904
				R	TGA ACT TTC AGG TAT TGA TGA ATG AAG		
	GATS11	306	52	F	CAC ATT GGT GCT AGT GTC GG	2	AF483840
				R	GAA CCT GCA AAG CAA AGA GC		
	GATS11B	160	52	F	CCC ACA CAT TGG TGC TAG TG	2	AF483840
				R	AGC GCA ATG CTA CTC GAA AT		
B11	BM157	113	52	F	ACT TAA CAA GGA ATA GCC ACA CA	2	AF483873, Also in B1
				R	GTT AAT TGT TTC CAA TAT CAA CCT G		
	PVBR181	207	56	F	AGG GAA AAG TGG GAA AGG AA	9	BV686511
				R	CCA CAG CTG ATG AAA AGC AA		
	PVBR185	153	56	F	TGG TAA AGC AAA AAC GAT GG	9	BV686513
				R	GAC AGA AGA GTG AGG GTG TGA A		
	PV-at001	239	47	F	GGG AGG GTA GGG AAG CAG TG	1	U18791, Also in B4
				R	GCG AAC CAC GTT CAT GAA TGA		
B11	BMd-22	121	47	F	GGT CAC TTC CGG AGC ATT C	3	X74403
				R	CGG GAA ATG GAA GTC ACA GT		
	BMd-33	110	47	F	TAC GCT GTG ATG CAT GGT TT	3	AZ301561
				R	CCT GAA AGT GCA GAG TGG TG		
	BMd-41	250	47	F	CAG TAA ATA TTG GCG TGG ATG A	3	AZ301561
				R	TGA AAG TGC AGA GTG GTG GA		
	BMd-27	109	47	F	GGA CCC ACC ATC ACC ATA AC	3	M18093
				R	TGG TGG AGG TGG AGA TTT GT		
	BM205b	137	50	F	CTA GAC CAG GCA AAG CAA GC	2	AF483900, Also in B7
				R	TGA GCT GGG ATT TCA TTT CTG		
	BM184	160	52	F	AGT GCT CTA TCA AGA TGT GTG	2	AF483889, Also in B9
				R	ACA TAA TCA ATG GGT CAC TG		
	PV-ag001	157	47	F	CAA TCC TCT CTC TCT CAT TTC CAA TC	1	M75856
				R	GAC CTT GAA GTC GGT GTC GTT T		
	PVBR113	100	56	F	TGC ATT CTT CCT CCC ATC TT	9	BV686498
				R	TTG ATT TGA TTT GAT CAG TGG TG		
B11	PVBR215	220	56	F	AAT GGA AAA GGG GGA AGA GA	9	BV686519
				R	GCA ACA TTG CAG AGA GAC GA		
	Pv-act01bng91	240	55		TGA AAG TGC AGA GTG GTG GA	13	
				TTG GCG TGG ATG ATT TAT CT			

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
Unlinked	PV-ag005	139	48	F	GCT CAC GTA CGA GTT GAA TCT CAG	1	X13329
				R	ATC TGA GAG CAG CGA CAT GGT AG		
	PV-ctt002	164	49	F	TCG CCG GGA AAG TTG CCA GT	1	X58274
				R	TAG AAG GAG CGA GGG CCA TG		
	PV-at009	360	46	F	ATC TTT AAA TTA CTA ATT TTC TTG TAT CGT	1	Z30347
				R	TTC ATC TTT ATT ACA CAA CCT GAC TCA		
	PV-ccct001	150	50	F	CAC CAA TGT CTC CGG CGC A	1	X64769
				R	CGG TTG CCG TCG AAT GTG AT		
	PV-atcc001	171	49	F	ATG CAT GTT CCA ACC ACC TTC TC	1	J01263
				R	GGA GTG GAA CCC TTG CTC TCA TC		
	PV-gat001	182	47	F	ACA CCT TAT CAT TTA GAG GAA AAG AGA	1	M13968
				R	ACC CGA ACT GGC TGC AAC AG		
	PV-cca001	151	48	F	CCA GCT ACC ATC TCC TCC ATC CG	1	M18093
				R	TAG TGG TGG AGG TGG AGA TTT		
	PV-cca002	179	49	F	TAA TTT CTC TCT TCC CAT CCC AAA C	1	M18094
				R	GTA GTA ATA AGG AGG AGG CGG TGA G		
	PV-atct001	193	49	F	CAA TTA AAA CTC AAC CAA CCC AAA TA	1	M68913
				R	TTT CCC GCC ATA GAA TAT GTG AGA		
	PV-aaat001	203	49	F	TGG AGC CAT CTG TCT CTT ACC CAC	1	U10419
				R	GAG CAC GAG TCA CGT TTG CAA C		
	PV-ggc001	238	49	F	CTG AAG CCC GAA TCT TGC GA	1	U18349
				R	CGC GAG AGG TGA ACG AAA GC		
	PV-cca003	115	49	F	GCA AGA GAA CAC TGA AGA GGA TCG	1	U28645
				R	GAC ATT ACT CAT TTC ATC ATC TAC TAC ACG		
	PV-at002	254	49	F	GTT TCT TCC TTA TGG TTA GGT TGT TTG	1	U34754
				R	TCA CGT TAT CAC CAG CAT CGT AGT A		
	PV-tta001	106	49	F	CGA GGA GGA AGG AGA AGA CGG	1	U54703
				R	GAG GGT TAT CAC AAG GAA GAC ACG		
	PV-ag002	144	49	F	CCT CTC TCC CGA ACT TAT TCA TCT C	1	U70530
				R	TGG CCA TAG ATT GCA TGA CAA AT		
	PV-atcc002	192	48	F	ACT TCT TTC ATC ATC CAT CCA TCC	1	X02980
				R	TAT CTT GGC TCT CTT CCT CTT CC		
	PV-gttt001	153	49	F	TAT ACA CAC GAA CTT TGC ATT CCG	1	U13595
				R	ACA TGC AAG TTC ACA CGG TCC TC		
	PV-atcc003	176	49	F	TCT CCA TGC ATG TTC CAA CCA C	1	X52626
				R	GGA GTG GAA CCC TTG CTC TCA TC		
	PV-at005	305	48	F	GAC GTT CGC AGT ATT TTG TGA TAT AGA	1	X63525
				R	CAT AAT ACC ATG CTC CTA CTC TAC A		
	PV-cct001	149	49	F	CCA ACC ACA TTC TTC CCT ACG TC	1	X79722
				R	GCG AGG CAG TTA TCT TTA GGA GTG		
	BM3	193	56	F	CAG AAG TGC TTA TCC CCG AG	2	AF483843
				R	TGA AAT CTT CCC CTC CTT CA		
	BM6	153	48	F	AGG GTT TAC ACA CGA CAG GC	2	AF483844
				R	GGT TGA TAT GCC CTC ATG GT		
	BM16	149	54	F	CAC CGG GAG TGG CTG ACA	2	AF483845
				R	GTT TGG GGC GGA GTT CGA		
	BM20	146	55	F	ATC CGT AGA GAG GTG AAC GG	2	AF483846
				R	ATG AGT GCA GTT TGG TGC AG		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	BM25	227	55	F	CGC CTC CAA CGG TCT TCT	2	AF483847
				R	CAA GCA GGT GCG AAT CCA		
	BM48	232	58	F	GCC GTT GAG CTG GAG AGC A	2	AF483848
				R	CCT TCT TCT TGA GCC CGC TG		
	BM67	289	50	F	CCA ATG CTG CCA CAC AGA TA	2	AF483850
				R	CGC CCT TAT GAT CCA GTC CT		
	BM79B	125	52	F	CAT GGA GGT AGA GGA TAA TAA GGA G	2	AF483852
				R	CAT TAG AGC CGC CAC TTG		
	BM147	178	48	F	GGA ACC AAC AAG TTC CAC TTA G	2	AF483863
				R	GAG ACT GTG CTT TCG GAC TC		
	BM148	295	58	F	TTG AAA CTC TCT TTG CAG ACA C	2	AF483864
				R	AAC TAA TCC ATT TGC ACT ACC C		
	BM149	273	50	F	CGA TGG ATG GAT GGT TGC AG	2	AF483865
				R	GGG CCG ACA AGT TAC ATC AAA TTC		
	BM153	226	50	F	CCG TTA GGG AGT TGT TGA GG	2	AF483869
				R	TGA CAA ACC ATG AAT ATG CTA AGA		
	BM165	177	52	F	TCA AAT CCC ACA CAT GAT CG	2	AF483879
				R	TTC TTT CAT TCA TAT TAT TCC GTT CA		
	BM166	151	52	F	AAA GTG GGA GAG AAA CAC TAC ACC	2	AF483880
				R	GAT GCT GGC TTT CCA TTG AG		
	BM171	149	50	F	TGG CAT TTC AGA TTA ACA CTC C	2	AF483883
				R	CTT CCT TGC TGT TTC CAC TG		
	BM173	185	50	F	ATG CGT AAG CGA GGG AGA G	2	AF483885
				R	CCA GTA TAT AAC GCT GCT GCT G		
	BM187	191	52	F	TTT CTC CAA CTC ACT CCT TTC C	2	AF483891
				R	TGT GTT TGT GTT CCG AAT TAT GA		
	BM195	138	54	F	ACT GTA GCT CAA ACA GGG CAC T	2	AF483894
				R	TCC GAG CAC CGT AAC TGA AT		
	BM202	156	50	F	ATG CGA AAG AGG AAC AAT CG	2	AF483899
				R	CCT TTA CCC ACA CGC CTT C		
	BM213	154	52	F	AAC CCT AAG CTT CAC GCA TTT G	2	AF483905
				R	GAG AGA TTG ACG ACG GTT T		
	BMd-3	223	47	F	TGT TTC TTC CTT ATG GTT AGG TTG	3	U34754
				R	GTA TCC TCC GAT CAA ATT CAC CT		
	BMd-4	146	47	F	CTC CAC TAC CCC AAA CAG TAC C	3	AF190462
				R	TTT GAG GAA ATG GTT GTT TGG T		
	BMd-5	122	47	F	CGT GGA CTT GAA TGG TTT CAG	3	AJ132438
				R	TCC TTA CCC TGT TCT GCT TCT C		
	BMd-6	122	47	F	CAT CGA ATG CCC AAG AGA ATA	3	Z99957
				R	CTC ACT GTC TTC CAT CCA AGC		
	BMd-8	176	47	F	TTC ATC CTC TCT CCC GAA CTT	3	U70530
				R	CTT TTG TGG CTG AGA CAT GGT		
	BMd-13	194	47	F	TCA TGC CTG AGA AAG GGT CT	3	AF204210
				R	CCC TGC ATC AGA AGT CCA AT		
	BMd-14	186	47	F	TCG CTC CAA GTG CAT GTA AG	3	AF190462
				R	TGG GGA AAC AAA ACA AGA AGA		
	BMd-21	190	47	F	GGC TCC ACC ATC GAC TAC TG	3	AJ297395
				R	TGC GAT GTT TGA GCA TTT GT		
	BMd-23	127	47	F	GGC TTG GTC CTC TCA TTG AA	3	E04043
				R	TGG AAA TTA CCA CCA TGC AA		
	BMd-24	122	47	F	CAC CTT ATC ATT TAG AGG AAA	3	M13968
				R	CAC TGC TCT CCG TAG CTT CC		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	BMd-29	159	47	F	CTT CAC CGA TCT GAC AGC AG	3	U54703
				R	TTT CTC CAC TGG AAC ACT CG		
	BMd-30	134	47	F	CAG CAA ATG CAA CGC TAA GA	3	U32582
				R	GGT TGA ATT TTG AAA CCC TGA		
	BMd-31	161	47	F	TGA AGA GGA TCG CAA GGT TC	3	U28645
				R	AGC CGA AAC ACT GTC CTT GT		
	BMd-32	150	47	F	ACA CCC TTC ATC TCC CTC AT	3	X85804
				R	ACC CAT GTT GGA TGT TGG AT		
	BMd-34	119	47	F	ATC GCC GTT GTC GTT TCT A	3	AF078082
				R	TCG AAT TGC AAT GAC TGA GAA		
	BMd-35	128	47	F	TCT CTT CCT TAC CCT GTT CCG C	3	AX008671
				R	GCG TGG ACT TGA ATG GTT TC		
	BMd-48	131	47	F	CCC CAC CAA CTC TTT CTT CC	3	AF088188
				R	CAG AAT TGA CTT GGC GAG AA		
	BMd-49	95	47	F	TCT CTT CCT TAC CCT GTT CTG C	3	AX008671
				R	GGT TCA ATG CTG GCT GAG A		
	BMd-51	116	47	F	CGC CAA TTC TTC AAC CCT AA	3	AF128454
				R	GTA GTT CGC CCG AGG ACT G		
	BMd-54	154	47	F	GGC TCC ACC ATC GAC TAC TG	3	AJ297395
				R	GAA TGA GGG CGC TAA GAT CA		
	Bmd-55	188	47	F	GTC CGT TCA TGG GTT TGA CT	3	AF142702
				R	TCG AGA TCT ACG GAG GAG TTC		
	BMd-11	161	47	F	GCT CAA CAT TCC AGA GGC TAA	3	AZ044955
				R	TCA AAC CTA CAT AAA TAA AAC AAA ACA		
	BMd-38	178	47	F	GCG TTT CCA TGA ATC AAT CC	3	AZ301538
				R	AAA TTC CGA ACC CGT GAA CT		
	BMd-39	126	47	F	CAC CGA GGA GTT TCT GTG AA	3	AZ301615
				R	TTA AGT CCT TGC AGC CCT TC		
	BMd-43	176	47	F	CAG CAT CAA GAA GAC CCA AG	3	AZ301513
				R	CAG CAC CAC TAT GGG AGG AC		
	BMd-56	193	47	F	AAT GCG TGA GCA TGA TTA AGG	3	AY028711
				R	TCA TCT GTC AGC ACC AAA CC		
	BMd-57	140	47	F	GAG GCA AAG AAG CTA TTG AA	3	AZ301498
				R	TTT TTA ATT CCT GTG AAT TGT TT		
	PVBR1	404	56	F	GCA GAG GTT CTA CCT GAT CG	5	DQ185872
				R	TGG TTA TCA ACT GGC TCT CC		
	PVBR2	236	56	F	CTA ACC GCC ATC AAC ATA GC	5	DQ185873
				R	CGC ACT GAA GTC AAT GGT CC		
	PVBR4	159	56	F	CAA TTC TAG CAA GGA CGA ACG	5	DQ185874
				R	AAA CAT TGT GAC CGC ATC CT		
	PVBR5	195	56	F	ATT AGA CGC TGA TGA CAG AG	5	DQ185875
				R	AGC AGA ATC CTT TGA GTG TG		
	PVBR6	247	56	F	GGC ATA AAG AGG AAT CAA AG	5	DQ185876
				R	CGC AGC TGT GTT CTC TAC G		
	PVBR7	306	56	F	AAT GGC AGG TCA GTG AAA C	5	DQ191409
				R	ATG ACC ACG CAG TGA CAG AG		
	PVBR9	356	43	F	CAA CCC ATA CAA ATC ATC C	5	DQ185877
				R	GCT AAT CCA TTC TCG AAG		
	PVBR10	88	54	F	ACA ACA ACA GAG AAT CTC TC	5	DQ185878
				R	AAG GAT GAG AAG GAG GAC		
	PVBR11	142	56	F	AAA CTC AAA GTC GTT GTT CC	5	DQ185879
				R	CCA CTG ACT CTA GCT CCT CC		
	PVBR12	193	60	F	AAG TCT CCA CCT TTC AAA TGC	5	DQ185880
				R	ACG CCA TCC ACC ATC CTT		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	PVBR14	196	56	F	TGA GAA AGT TGA TGG GAT TG	5	DQ185881
				R	ACG CTG TTG AAG GCT CTA C		
	PVBR15	191	50	F	CCT ACG CGA CAA GAT TGG CA	5	DQ185882
				R	CAG AAA GGA AAC ATA AAC		
	PVBR16	198	56	F	AAG CAA CAG AAA AGC AGA AGA C	5	DQ185883
				R	TTG TGG TGT TGA GTG TGG TG		
	PVBR18	198	46	F	GTT CTG CTT GCA GCA TAC C	5	DQ185884
				R	AGA AAC ACA ATC GGA AGA G		
	PVBR19	159	45	F	GAG AGG GAG GCA TAA AGA GG	5	DQ185885
				R	TGC ACT CCG ACG ATC AAG TT		
	PVBR20	197	56	F	TGA GAA AGT TGA TGG GAT TG	5	DQ185886
				R	TAC GCT GTT GAA GGC TCT AC		
	PVBR21	229	56	F	GAA GAA CCG CAA GTA GAG AAG T	5	DQ185887
				R	TAA CAT CAG ACG CCG ACG A		
	PVBR23	345	56	F	GAA CGG AGA CAT AAC AGC CA	5	DQ185888
				R	GAG GAC CAA CCA AAC CAA GC		
	PVBR24	250	55	F	GGT AAC CAA GCT AAA GAC	5	DQ185889
				R	CTC TAC CTC AAC AAA TAG TG		
	PVBR25	158	56	F	GAG CTT CTC CGT CCT GTG T	5	DQ185890
				R	CGA ACT GAA TCA GAA AGG AA		
	PVBR26	194	56	F	ACC TGT TTT CTG GCT CTG GA	9	BV686609
				R	CCG TTG ACT TTC AAC CCT TC		
	PVBR67	153	56	F	TGA GCC ATA TAT TTT TCT CAC TCT T	9	BV686483
				R	ATG GGC ATG GTG GAT GAT AG		
	PVBR169	205	56	F	TGG AAA GTC GGA GGA GAA GA	9	BV686508
				R	AAA AGG GTC CCA ACC AAA AC		
	PVBR199	186	56	F	CTC TCA AAA CGC ATT GTC CTC	9	BV686516
				R	GAA AAG AGA GTG ATA GCA TCC AA		
	PVBR201	241	53	F	GTG ATG GTG CTG CTT TTC AA	9	BV686517
				R	ATG CGT GGG GAG AAG TAA GA		
	PVBR259	127	56	F	TCA ACC TTC TCC TGG TCC TG	9	BV686531
				R	TCT CTC TTT CTT TCT GCG GTC T		
	11M1	192	57	F	CAT CGT GTG ACC ATA TTT TGG	7	AJ416389
				R	AAG GCC CGA CTT CAT TCA AT		
	12M1	203	53	F	ACA GAG GAG AGA GAG AGA GAG	7	AJ416390
				R	GTA AAG GGA AAA AAG AAT CC		
	13M1	186	53	F	CAT CGT GTG ACC ATA TTT TGG	7	AJ416391
				R	CCG ACT TCA TTC AAT CCG A		
	14M1	140	53	F	TTG AAG AAT AAA TGA AGC CT	7	AJ416392
				R	ACT CCA ACT TAT TCT CTC TCT C		
	8M2	167	53	F	TTG GAA TAA ATA TGG AGG AAT	7	AJ416393
				R	CCG ACT TCA TTC AAT CCG		
	129M2	215	57	F	TCA TTC GCT CGC TTA CTC AC	7	AJ416394
				R	AAA TGA AGT GAG CAA AGG GC		
	130M2	242	53	F	GTA GCT CAA ACA GGG CAC T	7	AJ416395
				R	CTA AAG CAG GGT GAG TGT CT		
	133M2	202	57	F	CTG TAC GCA CGA GTG GTT G	7	AJ416396
				R	CCT GAA ATG AAG TGA GCA AAG		
	137M2	279	53	F	ACC ATA TAG AGG AAG AGA GAG	7	AJ416397
				R	GAA GTG ATC TTC ATT GTC G		
	149M2	194	57	F	CGC ACG AGT GGT TGG AGA G	7	AJ416398
				R	TGA AAT GAA GTG AGC AAA GGG		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	188M2	None	53	F	ACC TGC AAC CCG ATA GAG A	7	AJ416399
				R	CTC CTC TCT TTC TCT CTC TGC T		
	8M3	None	50	F	ACA GAG AGA TAT GAG AGA GAT	7	AJ416400
				R	CTA TTT GTT TGT ATC TAT CTA TC		
	59M3	175	53	F	GCA CGA GTA GTT GAA AAG A	7	AJ416401
				R	GAT TCA AGT TCA GCA AGC		
	71M3	288	51	F	ACT AGA GGA GAG ACG AGA GA	7	AJ416402
				R	GTA GCA AGT TGC AGG AGT		
	118M3	189	51	F	GCA GAG GAG AGA GAA AGA GA	7	AJ416403
				R	GTT GCA GGT AGC AGG TTG		
	143M3	265	50	F	GAC GGA AAG ATA GAT AAA GA	7	AJ416404
				R	ACC CTT TCT CTC TCC TCT		
	195M3	390	57	F	CGA TAG ATT GAG ATG GAT TGA	7	AJ416405
				R	GGT AGC AAG TTG CAG GAG T		
	207M3	None	51	F	GAG CCA GAT AGA TAG TTA GAG G	7	AJ416406
				R	AAG TTG TAG GTA GCA GGT TG		
	210M3	None	53	F	ACA GAG AGA AAG AGA GAG AGA GA	7	AJ416407
				R	TTT TTC CCG TTG TTG TCT T		
	228M3	526	53	F	ACG GAC AAA TAG ATA AAT AGA GAC	7	AJ416408
				R	GTA GCA GGT TGC AGG AGT G		
	PVMADS	282	60	F	GCG AGG AGC CAG GAA AAT	7	AJ416409
				R	CTA TTG GAG AAG ATG ATG AGA GC		
	CLP	207	55	F	CTC TGG AAG GTC TCA TTC TG	8	AF324244.1
				R	GTA CCA TCA TCT CCA CCA CT		
	CELL	208	55	F	GGT CAC CTT GTT GAG AAG AG	8	AF402604.1
				R	TTT CTC GTC ATC AAC CTC TC		
	CELL2	164	55	F	GAG AAG AGA GGT TGA TGA CG	8	AF402604.1
				R	AAG TGA ATT GCG GAT TTT TA		
	CELL3	187	55	F	TGA AGA TGG AGG AGC ATA AT	8	AF402604.1
				R	CCT CTT CTC AAC AAG GTG AC		
	CELL4	199	55	F	ATC GGT TTC CTT CCT TAC TT	8	AF402608.1
				R	TTG TCA TCT TCA ACA CCA AA		
	CELL5	209	55	F	TGA AGG GGA AAA TGT AGA AA	8	AF402609.1
				R	TGT CCT TCT AAT AAA TAT ACC AAG AG		
	Bng95-F	198	55	F	CAT TCC AGA GGC TAA AAT TG	8	BH126808.1
				R	ACC ACA GTA GCA GGC TTA AA		
	DROUGH1	213	55	F	CAG ACA TGC AAA TTG GAA C	8	AF350505.1
				R	GGA GCA CCA AAG ATC ATA GA		
	DROUGH2	189	55	F	GAG AGA GAG AGA GAG AGA GAG AGA	8	AF369790.1
				R	ACG TAG CTG GAG GTG TCT TA		
	AY1	203	55	F	ATC AGG GTC TGT CAT GAT CT	8	AY028711.1
				R	CCT CCT CTC TTC TTG TTC CT		
	PAX1	224	55	F	AGC AAC AAT CCT TTC TCT TCT	8	AY007525.1
				R	TTA ACG ACG TCC ATG ATA AC		
	QUIT	210	55	F	GAT GCT GTT AGT TGG AGG AA	8	AJ297395.1
				R	GTA GGA GGA GGA GGA CTA GG		
	AIA	201	55	F	TTC CAA CAG AGA GAG GGT AA	8	AF293023.2
				R	TAG TCC TTG CTT TCT TTT GC		
	LIPOX	198	55	F	TGG CTA AGA ATC CTG AGA AG	8	AF234983.1
				R	CTG CAA GTT TCT TTC CAA AC		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	GLU	200	55	F	GCC AAT TCT TCA ACC CTA AT	8	AF128454.1
				R	AGA GCA TGA GAA AGT GTT GG		
	BETAG	205	55	F	ACC CTT CTC TCA AAA CCA CT	8	AF088188.1
				R	AAC CTT GCT TGG ATG AGA TA		
	Bng68-F	214	54	F	TTG CTT ATG TCA AAC CTG AA	8	AZ301498.1
				R	TTT TTA ATT CCT GTG AAT TGT TT		
	Bng91-R	192	59	F	TTG ACT GAA TCT ACA CGG TTG TG	8	AZ301561.1
				R	CCT GAA AGT GCA GAG TGG TG		
	Bng91-R2	162	59	F	CAG TAA ATA TTG GCG TGG ATG A	8	AZ301561.1
				R	AAA CCA TGC ATC ACA GCG TA		
	Bng57-F	200	53	F	TTA GTT TTG TTA TGC GTG CT	8	AZ301609.1
				R	AGC ATG TGT TAC CGT GTG TA		
	FJ 01	270	60	F	GTC GCC GCT ACT TCT TTG TT	10	DQ469376
				R	TTT TAA TGT TGTGGG AGT GAT G		
	FJ 02	251	51	F	GGT CCA CAA TCA AGC AGT CA	10	DQ469377
				R	TAT GGA ACC TGA TAG CAA GTG		
	FJ 03	178	45	F	TTC GCG AGC AAG CAA CTA	10	DQ469378
				R	TGA ATG TTT TAA ATG CGT TGA A		
	FJ 04	216	45	F	ATA GAT GAA GGA TTG GGA GAG	10	DQ469379
				R	GGG AAA TTG AAG AGG AGA TAC		
	FJ 05	212	60	F	AAG AAA CAG AAA CAA TAA AAA C	10	DQ469380
				R	TTT CCA TTT ATT TTC AGT CAC A		
	FJ 06	152	60	F	TTG GAA CAC CGT GGA ATG GA	10	DQ469381
				R	GAG GCT TTA GAC GTT GGA GAC A		
	FJ 07	290	60	F	GAA AAC GCG AAA CAA CCGA	10	DQ469382
				R	ATG TCT CCA AAT CCC AAG TG		
	FJ 08	195	60	F	ATG GTC ATG GTA TCA GTT CA	10	DQ469383
				R	TCT TTT CCA TAG TAT TCT CTT G		
	FJ 09	155	45	F	ACC TTA GAT AGT GCT TGT TAG AG	10	DQ469384
				R	CAT GACACC TAG GGC AAA		
	FJ 10	209	45	F	AGG GGA GTT GTG TTC TTA C	10	DQ469385
				R	ATA CGT ACG AGT GAC TGG AGA		
	FJ 11	297	60	F	AAA AGG ATC AAA GAG GAG AAA T	10	DQ469386
				R	GGG CAA GTA AAG CTA AAC GAG		
	FJ 12	256	60	F	TAT CAG CCT AGT TAT TTT CAA G	10	DQ469387
				R	CAT ACT TTT CTT ATT TTC TGG A		
	FJ 13	266	60	F	TCG ATG CAG GAT TGG ATT	10	DQ469388
				R	CAG GTT GAT TGT GAT AGG TTA C		
	FJ 14	148	60	F	TTC ATG GCA AGG TAA GTA AAT A	10	DQ469389
				R	TGA ATG AAC ACA ACA CAA CAA		
	FJ 15	191	60	F	AGA ATG GAG GGA AAA GCA AAA G	10	DQ469390
				R	CCG AAG TCC AAG ATT AGA AGC C		
	FJ 16	284	60	F	TGG TGC TAC AAC AAA AGA GAA T	10	DQ469391
				R	TAG GCA TGT GGG TAG GTC AG		
	FJ 17	222	60	F	TCC CGA TTT ATA GTT CTC ATT T	10	DQ469392
				R	AGG GAC CTC CTT CAT CTC		
	FJ 18	224	60	F	CAT TGA GAT TTG AGG TTT CGT T	10	DQ469393
				R	AGG TAT TTC CAT CGT GCT TTT C		
	FJ 19	205	60	F	ATG TTA GTG CCT TAT TTC TCT	10	DQ469394
				R	AAG GTA GGG TTG GGA TTG T		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	FJ 20	251	60	F	TTG GAA CAC CGT GGA ATG GA	10	DQ469395
				R	GAG GCT TTA GAC GTT GGA GAC A		
	SSR-IAC01	217	56	F	TGC TTC CCC TTT GTT TGT T	11	DQ469398
				R	AAG GGT CAG AAG AAG CAG AA		
	SSR-IAC02	288	56	F	ATG CTG GCC CCT CTT TTT CA	11	DQ469399
				R	CAT ATT TAC AGG GTG GGC TTC T		
	SSR-IAC03	296	56	F	TCC CAA ATC AGC ACA GG	11	DQ469400
				R	TTT CAG ATC CAT CAG TAG TTT C		
	SSR-IAC04	241	50	F	GGG GGT GGG ATG AAT GGA	11	DQ469401
				R	CAA TCG GAC CTG AAC AAT GAA A		
	SSR-IAC05	206	50	F	TTG CAA CAG CCT AAA ATA CCA T	11	DQ469402
				R	AGT CTC CCA ACC TCC TTC AAA		
	SSR-IAC06	187	56	F	CCG GCT CCT GCT GAC G	11	DQ469403
				R	ATG TTC TGC CTT TCG CTC CTT		
	SSR-IAC07	230	56	F	CTT GAG GGG AGT GTT AGA TGT A	11	DQ469404
				R	TCA GGA GCC AAG AGT CAA G		
	SSR-IAC08	264	56	F	CCC TCT AGT TTA AAG CCA TCT	11	DQ469405
				R	GCA GGA AAA TAA TCG GTT GT		
	SSR-IAC09	191	56	F	CTA GCC AGT TAC ATC AGA CGA	11	DQ469406
				R	TCC CCA TTT GCC ACT TC		
	SSR-IAC10	290	56	F	AGG AAC TAA AAG CCG AAC TGG	11	DQ469407
				R	GCC TCC GCC GAT CAA CAC TA		
	SSR-IAC11	214	56	F	TGA TAA AAA TGG CTA CAC A	11	DQ469408
				R	TGA TAA AAA TGG CTA CAC A		
	SSR-IAC12	233	56	F	CAT TAT ATT CTT CTC CCT TAC G	11	DQ469409
				R	GAG CAA CAC CAA AAA CTA CT		
	SSR-IAC13	153	56	F	CCG CTG ATT GGA TAT TAG AGT G	11	DQ469410
				R	AGC CCG TTC CTT CGT TTA G		
	SSR-IAC14	221	56	F	GCT GCA TGT TTA TCC ACC TT	11	DQ469411
				R	TTG TTA CTC ACC CCA CCA TAC		
	SSR-IAC15	217	56	F	ATG CTC GCA CCT TCA ATC CA	11	DQ469412
				R	CAC TCG GGC AAG CTC ATA ACC A		
	SSR-IAC16	238	56	F	TGT AAC GCC CAG ATT TG	11	DQ469413
				R	GTT TGC ACT CCG ACG AT		
	SSR-IAC17	179	56	F	AGA GGT TTC TTG TTT GGT TAC	11	DQ469414
				R	ACG GTT GAA TAC TAG GGT TAC T		
	SSR-IAC18	278	56	F	AAC TTG TTG CCA GAA TGA CT	11	DQ469415
				R	CAC AAC TCC CCT TTA TGC TA		
	SSR-IAC19	173	56	F	AGA ATG ATG GTG CTG AGA T	11	DQ469416
				R	CTT GGT GAA TTT GAT AGA CAT		
	SSR-IAC20	184	56	F	GCA TCG GCA GTT CAT CAT T	11	DQ469417
				R	AAC AAA AAC TAC AGC CAT CAG C		
	SSR-IAC21	234	56	F	ACT AAA TAG GAG CAG GAA GAG	11	DQ469418
				R	TAA CGA AAT CAA TAA CAG GGT		
	SSR-IAC22	143	56	F	TGC AAA CCA AAC CAA ACA	11	DQ469419
				R	GGG AAA TGC AGG CTT AGA A		
	SSR-IAC23	250	56	F	TCG CCA TTA GCC TAG AGA AGA A	11	DQ469420
				R	ACA TAA TAT TGG CCG TAA CCT C		
	SSR-IAC24	165	56	F	TTG GGA AAA TTA TAG AGA ACA	11	DQ469421
				R	AGC CAC TGA CCC TTA CAT		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	SSR-IAC25	297	56	F	GAG ACG TTT CAT AAT CAA TA	11	DQ469422
				R	TTC ATG CAC AAT AAA TCA CT		
	SSR-IAC26	148	56	F	TTG GAT GGC AAT AAA ATA GCA	11	DQ469423
				R	TGT TGG ACT CAA AGG TGT TCT C		
	SSR-IAC27	269	56	F	GGA CCT GGG CAG AAG AAG T	11	DQ469424
				R	AAT CGA TTG TTT TGG TTT GAC		
	SSR-IAC28	289	56	F	AAA ATT CAG TGT CGT GTG	11	DQ469425
				R	AAG AGC TGT TAA GTT GAA TA		
	SSR-IAC29	230	56	F	ACT TTT GTT TTC CGC TGA TT	11	DQ469426
				R	CTA TTG GAG AAG ATG ATG AGA G		
	SSR-IAC30	154	56	F	AAT AGA AAT ACA AGA GCC AAT G	11	DQ469427
				R	GGT GTC AGA AAA TCA GAG GTA T		
	SSR-IAC31	249	56	F	AAG CTT TTG GGT TTT CTC A	11	DQ469428
				R	TTC CAC TAT GCA ATC AAT CAC		
	SSR-IAC32	273	56	F	CAA ATT AGG GGT TAC AAA AG	11	DQ469429
				R	TCT AGA TGG AAA CCC TGA CT		
	SSR-IAC33	191	56	F	AAC TTT AGT CTT CGC TGT GG	11	DQ469430
				R	CAT TGC ATC TGG TAT TGA CTT		
	SSR-IAC34	196	56	F	TTT CCC CTC TAG TTT GTT GTT	11	DQ469431
				R	CTG ACT GGG GTA TGA GAT GAG		
	SSR-IAC35	269	56	F	GTC CAA CAA TCA TCC AAC AGT	11	DQ469432
				R	ATA AGA AAT TCC CAG GCA AAC A		
	SSR-IAC36	173	56	F	CTG TCG AGT GGA GGG GGA TAA	11	DQ469433
				R	AAG GAT GAA TTT GAG GCA GTG G		
	SSR-IAC37	250	56	F	TCG CCA TTA GCC TAG AGA AGA A	11	DQ469434
				R	ACA TAA TAT TGG CCG TAA CCT C		
	SSR-IAC38	255	56	F	TGA CGG CAA AGA CAC CA	11	DQ469435
				R	TAA GTA GCC AAC CAA TAA AA		
	SSR-IAC39	220	56	F	CTT TGA ATG CTT TAG ATG TTT G	11	DQ469436
				R	GTT TGC ACT CCG ACG AT		
	SSR-IAC40	158	60	F	TTC TGA TCT CCT GCT ACA CTA A	11	DQ469437
				R	TAA CTG GTC GAG ATA AAA ATG G		
	SSR-IAC41	142	60	F	AGA CAC CCA GAT GGA ATA AGG	11	DQ469438
				R	TTC TAA TAC TCC CCA CCC ATC T		
	SSR-IAC42	202	50-56	F	ATT CCA TGT GCA CCT TAT TT	11	DQ469439
				R	ATT GTT CCG CTC CTG TAT C		
	SSR-IAC43	153	50-56	F	TGT GTC TAA TTC CCA GTT GA	11	DQ469440
				R	AGT CCA CCC CCT TTT ACA		
	SSR-IAC44	178	56	F	GTT GCG GCG GAA GAA GAC T	11	DQ469441
				R	TTG CAT TTT AAT ATT TTG GTT G		
	SSR-IAC45	201	56	F	CAG ACA ACA CAA ATG AAC AGA	11	DQ469442
				R	TTT TGC AGC AGC TAT GAT TAT		
	SSR-IAC46	253	56	F	CCT TAC ATC TCA ACT CC TAC	11	DQ469443
				R	TGA TGT GAC AAA TAA AGA AG		
	SSR-IAC47	306	56	F	AAA GGG GTT GCT GAA GTT	11	DQ469444
				R	CAA GTT GGA AAG AAG TGT GAG		
	SSR-IAC48	272	64.4	F	TGC ACG TGG AAC AGA CA	11	DQ469445
				R	ACT AAG TGC CAA ACA ACC TAT T		
	SSR-IAC49	231	56	F	GCC ATC CAT GAC AGA CAG	11	DQ469446
				R	GCT AAT ATA ACA CGC TAA AAA		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	SSR-IAC50	169	56	F	ATG ATA TAA CAA CTC ACC ATT T	11	DQ469447
				R	GTG CAA CTC CAC CAT TCT		
	SSR-IAC51	221	56	F	CCA GCA AAT AAA CAA CCC CAA A	11	DQ469448
				R	AAC AGA GCA ACG AAA AAG AAG G		
	SSR-IAC52	203	56	F	TGC ATG TAT GTA GGC GGT TTA	11	DQ469449
				R	GTG GCT TTT GCT TTT GTA GTC A		
	SSR-IAC53	175	56	F	ACG CAT GAG TGA TTG G	11	DQ469450
				R	CTG AAA AGG AGT GAG CA		
	SSR-IAC54	152	56	F	CTT TTG CCT TGT TTG GAG AG	11	DQ469451
				R	CAC CCT GTT GCA TTT ACT TAG		
	SSR-IAC55	211	56	F	AAC CCG TGA ATC TTT GAG G	11	DQ469452
				R	ATT GAT GGT GGA TTT TGA A		
	SSR-IAC56	280	56	F	CTG CAC AAC TCC CCT TTA TG	11	DQ469453
				R	ACT TGT TGC CAG AAT GAC TTG A		
	SSR-IAC57	279	56	F	CAT GCC TTG TGC TAC TTT C	11	DQ469454
				R	TTT TTT GTC AGC TTT ATG TTA C		
	SSR-IAC58	198	56	F	CAT TGC ATC TGG TAT TGA	11	DQ469455
				R	AAC TTT AGT CTT CGG CTG TGG A		
	SSR-IAC59	161	61	F	CAA GTG ACC GGA GAA GAT TTT T	11	DQ469456
				R	GTG CAC TCA GAC GGC TCA AG		
	SSR-IAC60	152	61	F	CTC AAG TCA GCC AGC AAG AAA	11	DQ469457
				R	AGA TTA CGG ACA AGG AAC TGA G		
	SSR-IAC61	157	58.6	F	CAC ACG CAC ACG GCA CAC	11	DQ469458
				R	TGG CAA TGG AAG AAG ACA AAA T		
	SSR-IAC62	211	45.3	F	AAC CCG TGA ATC TTT GAG G	11	DQ469459
				R	ATT GAT GGT GGA TTT TGA A		
	SSR-IAC63	210	59.8	F	TCG TAG CAC TAA GAT GGA AGA	11	DQ469460
				R	GTT TTG TGA ACT GTT GAA TGT G		
	SSR-IAC64	257	56	F	GCT TTA CTT GCC CAC TTG C	11	DQ469461
				R	TTC TAG CCA GAT ATT TCC TCA		
	SSR-IAC65	285	60	F	AGT GAT GAA ATA GAT GCT CCT T	11	DQ469462
				R	GAC TAG ATG TTA CCC TCC TTC A		
	SSR-IAC66	282	56	F	AAT CAC ATC TTT AAC CCA ACA G	11	DQ469463
				R	TTC CAC TCC CTC CCT ATC TT		
	SSR-IAC67	110	56	F	GAA GCT GCG ACG GAA CAT AG	11	DQ469464
				R	CCT AGT CCC TCC CCA TCC CAG		
	SSR-IAC68	266	56	F	TTG GAG GTA ACG CTT TTT TG	11	DQ469465
				R	ATT TAA CAT GAA CGA CCA CC		
	SSR-IAC69	283	61	F	TTT TAA CAT GCT CCC TCC TAC	11	DQ469466
				R	GGT CCA CAA TCA AGC AGT CAA		
	SSR-IAC70	205	60	F	CTC TCC AGG AAG GGT ATG TTG T	11	DQ469467
				R	AAA TGG ACT TGA GCA CCC TAA A		
	SSR-IAC71	167	60	F	TTC TGG TGT GGT AAA TCC	11	DQ469468
				R	GAA TCC ACT AGG TAA TCA AAT CC		
	SSR-IAC72	262	45	F	ATC GGT TGA ATT GGC TTG AC	11	DQ469469
				R	ATT GCT TAA AGA CTC CTG TTG C		
	SSR-IAC73	227	60	F	TTA GTT TTC TCG TCA ATG GA	11	DQ469470
				R	GCA TAA GAA ACC AAG AGC AT		
	SSR-IAC74	271	60	F	GGA ATC GAA GTT TGA AGT GAG G	11	DQ469471
				R	AAA TGA CCA AGC CAA GAA TGT T		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	SSR-IAC75	282	60	F	TGT GAG GTC AGA GGG TGT T	11	DQ469472
				R	CGG TTG TTT ATA CGA ATC A		
	SSR-IAC76	191	60	F	TTC ATG GCC AAT AAT CAG G	11	DQ469473
				R	GAG AAA ATT CAG AGG GTA GAT G		
	SSR-IAC77	241	60	F	CAC GGT TGG AGA AGA TGA TG	11	DQ469474
				R	ACC AAT ACA GGA AAG GGA GTT		
	SSR-IAC78	215	60	F	GGC CAT TTG CAC TCC GAC GAT	11	DQ469475
				R	GGG GCT TTA GAT GTT TGA GAC G		
	SSR-IAC79	179	60	F	TGT TGC CTA TTG CTT CCT AA	11	DQ469476
				R	CCT CCA ACC GGT GTA ACT T		
	SSR-IAC80	187	60	F	TTT GGG AAT ATT AAG GCA CTA C	11	DQ469477
				R	CAA ACT TAA ATA ATC GCA AAC T		
	SSR-IAC81	250	60	F	ATG GAC CTA TAT TGG CTT TGT	11	DQ469478
				R	GAA CCT TTT TAA TAA TCT GAG T		
	SSR-IAC82	192	60	F	TGC GTA TTG TAT GTT TCA GG	11	DQ469479
				R	TTG GGT CCA TTG GTG TCT CTA T		
	SSR-IAC83	286	45	F	ACC GAG ATG AGC GTA GGA ATG	11	DQ469480
				R	AGT TGA GAA GGC GCA GTT GTT A		
	SSR-IAC84	154	60	F	TTG CAC TCT TGT TGT TTA TGG A	11	DQ469481
				R	CAC AAT GAC GAC AGA TGA CAG A		
	SSR-IAC85	173	60	F	TTC TTC CCC TTC ACA CTC AAA	11	DQ469482
				R	AGG AAT CTC AGA ATG CTC AAT C		
	SSR-IAC86	141	64.8	F	AAT GCG CTA CGT TTT CTA AT	11	DQ469483
				R	AGC ACC GCG TAT GGC ACT C		
	SSR-IAC87	242	63.5	F	AAC TTT AAT TTT GCT GCT GTC A	11	DQ469484
				R	CTT CTC CCC CTA TTT GTC TT		
	SSR-IAC88	274	60	F	TTC TTG GGT GCT CGC TAC TTA	11	DQ469485
				R	GTT TGG GAT CTC GGG ACC TT		
	SSR-IAC89	222	60	F	GCC TCC AGC GGT TCT TTA CTT G	11	DQ469486
				R	TCG GGC ATG CAG GAG GAC		
	SSR-IAC90	257	60	F	GCA CAT TCT TCT TCC CTC CTA A	11	DQ469487
				R	GCG TGG CCC TAT TTT CAT T		
	SSR-IAC91	196	60	F	AAC CGC AAA GAG ACA CCA	11	DQ469488
				R	TGC AGG CTA CAC AAA CAC A		
	SSR-IAC92	211	60	F	GAT AAT CAG GGT CAA AGG TT	11	DQ469489
				R	GTG GAC AGG GAC ATA ATC TAA T		
	SSR-IAC93	251	60	F	AGT TCG CCT TGG ATT CTA	11	DQ469490
				R	GGA TTT TGT TCT GCC TTA CC		
	SSR-IAC94	182	60	F	CGA GAT GTC CCT GCT TCA	11	DQ469491
				R	CTC CAT TTC ATT ATA GTT TTC A		
	SSR-IAC95	165	60	F	AAA CAA CAG GGA AAT AAC ACA A	11	DQ469492
				R	TAA AGC ACA ACA AAC GAA CAT A		
	SSR-IAC96	285	60	F	AAG CGA TAA TCA TTC CAA CAT	11	DQ469493
				R	CTT ACC CAT CAC TCA TTT CAT T		
	SSR-IAC97	244	60	F	AAC TTC ATG CAT CTT CTT TAT T	11	DQ469494
				R	GTG TTG TGG CTG CTG TCA		
	SSR-IAC98	243	60	F	ACA TGG GCT ACA GGG ACA AT	11	DQ469495
				R	AGG GAG TTA ACG GTA TGG TAT G		
	SSR-IAC99	176	60	F	GAT AGC TGA ATG ATT TGG TTT A	11	DQ469496
				R	TCC CTA TTT ACT GCG ACA TT		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	SSR-IAC100	274	60	F	GTA AAC CGC AAA GAG ACA CC	11	DQ469497
				R	TGC AGG CTA CAC AAA CAC A		
	SSR-IAC101	172	60	F	CGT TTT AAA TGC GTT GAA	11	DQ469498
				R	TTC GAG AGC AAG CAA CCA		
	SSR-IAC102	201	60	F	GGT TGT TTC TGC CTC CAC TG	11	DQ469499
				R	GCT AAT GCT GCA CAC CAA ACT		
	SSR-IAC103	127	60	F	CCG TGA AGT GAA ACA AGG TG	11	DQ469500
				R	GGC CAT CAT CCC CAA CAG		
	SSR-IAC104	235	60	F	GTT ACT TAG CAG AGG CAG AGA A	11	DQ469501
				R	GCA GGG GAC ACT TAC TAC AGA G		
	SSR-IAC105	248	68	F	GTG GAC CAG GAG AAG ATT TTT G	11	DQ469502
				R	AGA CTT CCT TCC CAC TGA TTG		
	SSR-IAC106	192	60	F	TGC GTA TTG TAT GTT TCA GG	11	DQ469503
				R	TTG GGT CCA TTG GTG TCT CT		
	SSR-IAC107	273	62.3	F	CAA TCC TCG AGA AGA AAA T	11	DQ469504
				R	TAG AAA AGG GGG ATA AGT GA		
	SSR-IAC108	143	64.8	F	TTC TGG TTC CTT ATG GTT GGT	11	DQ469505
				R	AAT GAA ATA ATG CAG TGG TAG C		
	SSR-IAC109	138	64	F	AGT CAG CCA GCA AGA AAC ACC A	11	DQ469506
				R	TGG GGA ATA TTT TTG CCT GAA		
	SSR-IAC110	190	64	F	GTG TGC TCT TGA GGT TGT TA	11	DQ469507
				R	GGG AAT CCA CTA AGT AAT CAA A		
	SSR-IAC111	272	60	F	GTG CTG AGC CAA AGG AAG T	11	DQ469508
				R	AAA CAG TAA AGC ACC AGA AAA A		
	SSR-IAC112	279	60	F	CCA ACA TTC AGA CAC CAT CCA	11	DQ469509
				R	TTT TTG CAC TCT TGT TGT TTT A		
	SSR-IAC113	272	66.5	F	GGT GGT GGT TTC TTC CTC TC	11	DQ469510
				R	ACC CTT AGC AAC CCT TAG T		
	SSR-IAC114	167		F	GAG ACG GAA AGA TAG AAA AAG A	11	DQ469511
				R	CTC TCC GCG CTC TTA CTC TC		
	SSR-IAC115	208	64.8	F	ATG CAC AAG GCG GTA AAA A	11	DQ469512
				R	TCG TGC TTG TTC TTC CTC GTA A		
	SSR-IAC116	185	60	F	AGA CAT TGT TGA TAC GGG AGA T	11	DQ469513
				R	CAC CTT GAC TTG CCT TTG AC		
	SSR-IAC117	310	60	F	CAT CAA ACA AAC AAA CAT AAC C	11	DQ469514
				R	ACA CCC TTT CTT TCT TTT TCT T		
	SSR-IAC118	143	60	F	TTG GAA CAC CGG GGA ATG GA	11	DQ469515
				R	GAC GTT GGA GAC AGG GGG AGA G		
	SSR-IAC119	116	60	F	TTT TTG CCT GAA GGA GAT AAC A	11	DQ469516
				R	TCA AGT CAG CCA GCA AGA AAC A		
	SSR-IAC120	199	60	F	AGC TAC ATC CAG TCT TCT CA	11	DQ469517
				R	AGT TTC GTT TCT GTG TTT GTT A		
	SSR-IAC121	279	60	F	TGC TTA CGC TCC AGT CAT TA	11	DQ469518
				R	GCA AAC ACA GAA ACG AAA CC		
	SSR-IAC122	222	60	F	TCC CGA TTT ATA GTT CTC ATT T	11	DQ469519
				R	GGG ACC TCC TTC ATC TCG		
	SSR-IAC123	295	60	F	TGA AGC CCC CAA AGG AGA AT	11	DQ469520
				R	ATA GGC ACA AAT ACC CAA AGA A		
	PvM01	240	53	F	GCT CTA GCC TCA ATC CTT GG	12	
				R	GGT TCC TGC TTC CCA CTT T		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	PvM02	191	53	F	CGC CAT TTG GAT TGG ATT	12	
				R	AGG CGT GGA AGT GGA GTG		
	PvM03	167	53	F	CCG CCT TCT TCT TCT TCT TC	12	
				R	CGG CGA GTC ATC TTT TCC		
	PvM04	210	50	F	GGT TCC TCC TCC TTC TGC T	12	
				R	GCG CCG TCT TTT TGG TAG T		
	PvM06	190	50	F	TTG CCA ACA AAT GGA AGT GA	12	
				R	TTG CAC AAT GAG AAG GGA GA		
	PvM07	213	50	F	CTG GAA TGG CTT ACA GAT GC	12	
				R	CCA AGA TCA GGC ACA GTG AA		
	PvM09	216	53	F	GCT TGA CGC CTT TGA ACC	12	
				R	CGT GGG CAT TGA TTC CTC		
	PvM11	154	50	F	TGG GAT TTT GAG CGT GTG	12	
				R	TCC ACC GAC TTA CCG AAC A		
	PvM12	191	50	F	CCA GTG TGT CAA CAA ATG GA	12	
				R	AGG CTT AGG GAA TGG CTC A		
	PvM13a,b	216	50	F	GAG AAG CCG CAG AGA GGA	12	
				R	AGA TGC CGC GAA CAG AAC		
	PvM14	204	50	F	AAA GCC ACA AAA ACC ATA AAC C	12	
				R	GCC TCC GAA AGA TTC AAC G		
	PvM15	185	50	F	GGT GGA GGC AGT GGT GTT	12	
				R	TTC ACT TTC CCA AGA CCT GA		
	PvM16	179	50	F	ATA TCG CCA CCC ACT CCA	12	
				R	AAC CGA AAG GGC AAA ACG		
	PvM17	213	50	F	AGG ATG GGT TCC GTG CTT	12	
				R	GGC AGC TTC CAC ATC GTC		
	PvM18	202	50	F	CAA CCA TCT CTG TGG CAA G	12	
				R	TGA GTT TGG GAG AGT GAG TTT T		
	PvM20	222	50	F	CGC TTT GAT AAA ACG CTT GC	12	
				R	TGT TGG TGC TAA CGA TGG AA		
	PvM21	251	50	F	CCC ATC TTC CAT TTC CAC AG	12	
				R	AAG CCA CAG AAA ACT GAG CA		
	PvM22	222	50	F	ACT CTC ACA ATG GCG GAA TC	12	
				R	GGC GTT TTC TCC CTC TTC TT		
	PvM24	345	50	F	CAG AAA AAT GGG CAC AAG G	12	
				R	AAA GTC AAC ACG CAC ACA CC		
	PvM25	183	50	F	GAA GAC GTG AAG GAG CCA CT	12	
				R	CAC TTT CCA GAG AGA ACG CAA T		
	PvM26	206	50	F	TTC TCC ACC CCA TTA ACT GC	12	
				R	CTC GGA ACA AAG TCC TCC AC		
	PvM27	192	50	F	GGA GTT GAA AAG GGT GGC TA	12	
				R	TGA TAC AGA AGC AGG GAG AAC A		
	PvM28	189	50	F	GGA GAG GAA ACA CGT AAT GGA	12	
				R	TCG ACA ACA AAA GAA AGA AAA GAA		
	PvM29	275	50	F	CAG CAG AAC AGC AAG TGA TTC	12	
				R	GGT GGC AGG TAC GAA AGA GT		
	PvM30	222	50	F	GCA GAC CCT GTC AAC AAC AA	12	
				R	GCC ATG AAG CAA GGT GAA GA		
	PvM32	159	45	F	GAG AAG CCA GGA ACT TA	12	
				R	GCA TCC CTT TTG TGT C		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	PvM33	220	45	F	GCC TTC TTT TCC AGC AG	12	
				R	GTC TAT TGT TGT TTT CTT TTC TC		
	PvM34	273	45	F	CTT CTC CCT CTT CCT CCT	12	
				R	GGA CAG TGA TAG TTC AGA TTC		
	PvM36	201	45	F	GCC CCC TAT TTC CCT ACC	12	
				R	CAT CTT CTT CCT CAC CCT TA		
	PvM37	158	45	F	GGA CAG GGG AAT CTC ACT A	12	
				R	CGT GGT CGT GGT GGT G		
	PvM39	133	45	F	ATC TCT TTC GGG CAG A	12	
				R	ATT GTG CTT TCT CAA CG		
	PvM40	202	45	F	CTC TCC ATT TTG TCA G	12	
				R	GAA CCA TCA GAA ACT AC		
	PvM41	174	45	F	AAA TGT CCC CAG CCA CAC	12	
				R	TTC CCT TCA CCT TAC CCT TC		
	PvM42	255	45	F	CCA TCG TCC TTT TCT TCA ACA	12	
				R	CAC TGT CCT TGG GGC TAT C		
	PvM44	182	45	F	CTC TTA CCA GCA GCA TCA	12	
				R	CTC CTT CTC TCT CTT TCT CT		
	PvM45	232	45	F	GAG GGT AGT TTC TGG A	12	
				R	GAC CAA GTT CTC TTT C		
	PvM46	246	45	F	CGC TTA TGT TGG GTG GAG	12	
				R	CGT GGA AGG AGA GGG AGA		
	PvM48	122	45	F	GCA AAT GGT GGG GTG ATG	12	
				R	AGG GAG GTG AGG TGG TGA		
	PvM49	197	45	F	ATC TCT GCG TCG GAG TGT TT	12	
				R	TAT CCT TCG CCC AAT CCA TA		
	FJ 21	293	45	F	TAA TAC TTG TAT CTC CCT TGT G	12	EF136464
				R	GGC CAT GGA AAA CTT GTA		
	FJ22	276	64.8	F	CAC CGC TTC TAC CTC CGT CC	12	EF136465
				R	GGG GCC GCA TAG TGA TTC TTC T		
	FJ 23	200	60	F	TAA ATA GCC CTA AAA CAA ATC C	12	EF136466
				R	ATA TAG TGG CTT CCT TCA AG		
	FJ 24	290	45	F	TGC AAT CCA AAC GAG TGA AG	12	EF136467
				R	AAA TAC AGT TGA AAT CCT CCA C		
	FJ 25	291	45	F	AAG CTT TTG GGT TTT CTC A	12	EF136468
				R	TTA TCC CAA GGG CTA CAT TC		
	FJ 26	168	60	F	ATA CCC AAT TTA ATG TTC TTT C	12	EF136469
				R	GAG GTA TAC GTA GTT TGG AGT T		
	FJ 27	246	60	F	ATG AAA GCG ATA GTG ATG AGA T	12	EF136470
				R	CCA GTG GGT AAT GAG TTG		
	FJ 28	192	60	F	GCG CAT TCA TCT CAT CCA TTA T	12	EF136471
				R	CCA GGC AGA GCA AGC AAG TT		
	FJ 29	237	60	F	CAT GTT GGC TTA GTG ATG TTC	12	EF136472
				R	CAT GTT GGC TTA GTG ATG TTC		
	FJ 30	251	60	F	TTC TCT TCT TTC TTC CTT CCT C	12	EF136473
				R	TTT TCC TCT TCC ACC TTC TCT A		
	FJ 31	289	60	F	TTT TTA ACA TGC TCC CTC CTA C	12	EF136474
				R	GGT CCA CAA TCA AGC AGT CAA G		
	FJ 32	159	60	F	AGG GCT AGG AAA CAC CGA AAA C	12	EF136475
				R	CCC GCC CCA TCA GAA AAA G		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	FJ 33	268	60	F	GTG TGA TGA GCC AAA GGA AGT	12	EF136476
				R	GAA ACA AAG CTC AAA ACA GTA A		
	FJ 34	271	60	F	CTT TCT GGG CTT GTT TCA	12	EF136477
				R	CTA TAT CAG CCT AGT TAT TTT CA		
	FJ 35	264	60	F	TAA TCT TAA ACC AAA AAC CAC A	12	EF136478
				R	GGG GAT CGA ATG AAA AGA CT		
	FJ 36	178	45	F	TGA ATT TTA AGT GGC AAG AT	12	EF136479
				R	CCA AAC ACA ATA GAA ATG ATA G		
	FJ 37	281	60	F	TTA TCG CTA GAT TCT TGT GTT A	12	EF136480
				R	GGA TGC ATC TTT AGG AGT GA		
	FJ 38	251	60	F	TTC TCT TCT TTC TTC CTT CCT C	12	EF136481
				R	TTT TCC TCT TCC ACC TTC TCT A		
	FJ 39	280	60	F	TGC TTA CGC TCC CAG TCA TT	12	EF136482
				R	TAG CAA ACA CAG AAA CGA AAC C		
	FJ 40	288	45	F	TCA ACA TTC TTG GTG TGG TT	12	EF136483
				R	AAT GTT TAT ATT GGT TCA CTC A		
	FJ 41	268	60	F	CAT TCT TAG TGG TGT TTG TGC	12	EF136484
				R	AAT CGG TTG TTT CGC ATA A		
	FJ 42	202	60	F	GGA GCG TAA AAC CAC CTT	12	EF136485
				R	TCG AAA GCT TGA AGA CCT TG		
	FJ 43	268	52.7	F	GTG TGA TGA GCC AAA GGA AGT	12	EF136486
				R	GAA ACA AAG CTC AAA ACA GTA A		
	FJ 44	255	53.7	F	TAT CAG CCT AGT TAT TTT CAA G	12	EF136487
				R	CAT ACT TTT CTT ATT TTC TGG A		
	FJ 45	226	60	F	TTG ATC ATG AGT TCA GAG TCC A	12	EF136488
				R	GAT TGA TAG AGA TTG CCA TAA GTC		
	FJ 46	263	60	F	AGT GGA CCA CTT CTT CTT TC	12	EF136489
				R	CAA TTT ACC AGC TGG ACT TTA G		
	FJ 47	248	60	F	ATG CTG GAA TGA CTG TGA TGG A	12	EF136490
				R	AAT GGG TGA AAT AAG TGG GTT G		
	FJ 48	229	60	F	ATT GAA GTG AGT TAT TTT GTG AAG	12	EF136491
				R	CAT TCT TTA TTG GTT TTC CTT AG		
	FJ 49	264	60	F	ATG AGA AAA TAA CGT GGA GGA A	12	EF136492
				R	GAC GGG ATC GGT TTT ACT GAG		
	FJ 50	226	45	F	CAT TTC ATG TGA TTT CTC TTG T	12	EF136493
				R	ATT GTG CTC TCC TTT GAT AA		
	FJ 51	212	60	F	AAG ATT TTT CCA GCG ACC TC	12	EF136494
				R	TTC ACG GAT CCA AAG TAT TCT C		
	FJ 52	158	60	F	GCT CGT GAA TTC AAG GGT AA	12	EF136495
				R	CCG AAT CGG TAA TAG TAA ATC C		
	FJ 53	174	45	F	CCG CGG ACT ACT GTA ATC TAT G	12	EF136496
				R	GCA GCA AAA ACA AAA TCA AAT C		
	FJ 54	248	60	F	AGC ATG CCC TGT TCT TGT CTA	12	EF136497
				R	TGT GAA TTA TGG ATG TGT TTG TT		
	FJ 55	180	60	F	CAA ACA CTG ACA CAC ACA AAC GA	12	EF136498
				R	AGA GAA ATC AAA GCC GAA GGA		

LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
	FJ 56	263	60	F	ATT ATG CTC TTC TTC TTT GTT T	12	EF136499
				R	GAA AAT ATT AGA AAA ATG CCG C		
	FJ 57	263	45	F	CCT AGG TTC TGC GCT GCT TTT G	12	EF136500
				R	TCC CCC TCT CAT CAT CCC ATA A		
	FJ 58	186	60	F	GAG CTT CGG TTC TTT TCT TTG	12	EF136501
				R	GCA GCC TCC CAC ATA ATA GTA A		
	FJ 59	201	60	F	GAG CGT GTT CCG AAG CGA GTT	12	EF136502
				R	ACC CAG CCG AGA CCA GCA G		
	FJ 60	134	45	F	GGA GGG CAT GAG AAG ACG ACT	12	EF136503
				R	ACA AGA CAC GGG CAA AAT AAA T		

* GenBank nos. or Being processed by NCBI.

Sources:

- 1 = Yu et al., 2000. Journal of Heredity 91(6):429-434.
- 2 = Gaitan-Solis et al., 2002. Crop Science 42:2128-2136.
- 3 = Blair et al., 2003. Theoretical and Applied Genetics 107:1362-1374.
- 4 = Caixeta et al., 2005. Crop Breeding and Applied Biotechnology 5:125-133.
- 5 = Buso et al., 2006. Molecular Ecology Notes 6:252-254.
- 6 = Frei et al., 2005. Crop Science 45:379-387.
- 7 = Yaish and Perez de la Vega, 2003. Genetics and Molecular Biology 26(3):337-342.
- 8 = Guerra-Sanz, 2004. Plant Breeding 123:87-89.
- 9 = Grisi et al., 2007. Genetics and Molecular Research 6(3):691-706.
- 10 = de Campos et al., 2007. Pesq. Agropec. Bras. 42(4):589-592.
- 11 = Benchimol et al. Genet Resour Crop Evol (DOI 10.1007/s10722-006-9184-3, in press)
- 12 = Hanai et al., 2007. Genome 50:266-277.
- 13 = Murray et al., 2002. Genome 45: 1013–1024.

Additional SSRs

Colleagues with access to additional SSR markers not described in this file are invited to add them to the list by contacting BIC@css.msu.edu

Unlinked SSRs

If you have successfully mapped any unlinked SSRs to bean consensus map, you are invited to share that information by contacting BIC@css.msu.edu

Links to other sites:

http://www.ciat.cgiar.org/biotechnology/SSR_table.html
<http://isa.ciat.cgiar.org/molphas/micros.jsp?>

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LG	Marker Name	Size(bp)	T _m	Primers	Sequence	Source	Comments*
Duplicate Primer Sequences Detected in File Above							
	Name				Sequence		GenBank #
	PVBR139			F	GGT TGT GCT TGT GTT GTT GG		BV686503
				R	TGA AGT TGC AGC TAG GTT GG		
	PVBR251			F	TGA AGT TGC AGC TAG GTT GG		BV686529
				R	GGT TGT GCT TGT GTT GTT GG		
	PVBR125			F	GGA GCG AGA GAA AAT CGA AA		BV686499
				R	CTG AGA CGC AGA GCA GAC AC		
	PVBR188			F	GGA GCG AGA GAA AAT CGA AA		BV686514
				R	CTG AGA CGC AGA GCA GAC AC		
	SSR-IAC23			F	TCG CCA TTA GCC TAG AGA AGA A		DQ469420
				R	ACA TAA TAT TGG CCG TAA CCT C		
	SSR-IAC37			F	TCG CCA TTA GCC TAG AGA AGA A		DQ469434
				R	ACA TAA TAT TGG CCG TAA CCT C		
	SSR-IAC55			F	AAC CCG TGA ATC TTT GAG G		DQ469452
				R	ATT GAT GGT GGA TTT TGA A		
	SSR-IAC62			F	AAC CCG TGA ATC TTT GAG G		DQ469459
				R	ATT GAT GGT GGA TTT TGA A		
	FJ 06			F	TTG GAA CAC CGT GGA ATG GA		DQ469381
				R	GAG GCT TTA GAC GTT GGA GAC A		
	FJ 20			F	TTG GAA CAC CGT GGA ATG GA		DQ469395
				R	GAG GCT TTA GAC GTT GGA GAC A		
	FJ 12			F	TAT CAG CCT AGT TAT TTT CAA G		DQ469387
				R	CAT ACT TTT CTT ATT TTC TGG A		
	FJ 44			F	TAT CAG CCT AGT TAT TTT CAA G		EF136487
				R	CAT ACT TTT CTT ATT TTC TGG A		
	FJ 30			F	TTC TCT TCT TTC TTC CTT CCT C		EF136473
				R	TTT TCC TCT TCC ACC TTC TCT A		
	FJ 38			F	TTC TCT TCT TTC TTC CTT CCT C		EF136481
				R	TTT TCC TCT TCC ACC TTC TCT A		
	FJ 33			F	GTG TGA TGA GCC AAA GGA AGT		EF136476
				R	GAA ACA AAG CTC AAA ACA GTA A		
	FJ 43			F	GTG TGA TGA GCC AAA GGA AGT		EF136486
				R	GAA ACA AAG CTC AAA ACA GTA A		
	SSR-IAC11			F	TGA TAA AAA TGG CTA CAC A		DQ469408
				R	TGA TAA AAA TGG CTA CAC A		
	FJ 29			F	CAT GTT GGC TTA GTG ATG TTC		EF136472
				R	CAT GTT GGC TTA GTG ATG TTC		