

TABLE S1**Detail for individual SNP markers genotyped in the discovery and validation populations**

gene	name	SNP	A	shortlist	validation	B	substitution	amino acid	region
rac13 GTPase (<i>G. hirsutism</i>)	rac13	1					silent	-	intron
rac13 GTPase (<i>G. hirsutism</i>)	rac13	2	*	*	*		silent	-	intron
proline rich protein	prp1	3					silent	Ala - Ala	exon
arabinogalactan protein 4 (<i>P. taeda</i>)	agp4	4					non - synon	Phe - Tyr	exon
proline rich protein	prp	5					silent	-	exon
proline rich protein	prp	6					silent	-	exon
proline rich protein	prp	7					silent	-	exon
proline rich protein	prp	8					silent	-	exon
aquaporin	porin	9					silent	-	intron
aquaporin	porin	10					silent	-	intron
aquaporin	porin	11	*	*	*		silent	-	intron
aquaporin	porin	12					silent	-	intron
aquaporin	porin	13					silent	Pro - Pro	exon
lim 1 transcription factor (<i>P. taeda</i>)	lim1	14					silent	-	intron
peroxidase precursor	perox	15					silent	Leu - Leu	exon
phenylalanine ammonia lyase 1 (<i>P. taeda</i>)	pal	16					silent	Glu - Glu	exon
phenylalanine ammonia lyase 1 (<i>P. taeda</i>)	pal	17	*		*		silent	Leu - Leu	exon
unknown protein	nh3702	18	*		*		non - synon	Asn - Lys	exon
myb 4 transcription factor (<i>P. taeda</i>)	lim1	19					silent	Ala - Ala	exon
myb 4 transcription factor (<i>P. taeda</i>)	lim1	20					silent	-	intron
rac13 GTPase (<i>G. hirsutism</i>)	rac13	21					non - synon	Ala - Val	exon
korrigan (endo-1,4- b-D-glucanase)	kor	22					silent	-	intron
cinnamate 4-hydroxylase	c4h	23					non - synon	Leu - Phe	exon
cinnamate 4-hydroxylase	c4h	24					silent	Val - Val	exon
arabinogalactan protein 4 (<i>P. taeda</i>)	agp4	25					silent	-	5'UTR

arabinogalactan protein 4 (<i>P. taeda</i>)	agp4	26				non - synon	Phe - Tyr	exon
arabinogalactan protein 4 (<i>P. taeda</i>)	agp4	27				non - synon	Ser- Ile	exon
arabinogalactan protein 4 (<i>P. taeda</i>)	agp4	28	*		*	silent	-	3'UTR
arabinogalactan protein 4 (<i>P. taeda</i>)	agp4	29	*		*	silent	-	3'UTR
arabinogalactan protein 6 (<i>P. taeda</i>)	agp6	30				non - synon	Asp - Tyr	exon
hdzip transcription factor	athb8	31				silent	-	intron
hdzip transcription factor	athb8	32	*		*	non - synon	Arg - Thr	exon
hdzip transcription factor	athb8	33				silent	Leu - Leu	exon
hdzip transcription factor	athb8	34				silent	-	intron
hdzip transcription factor	athb8	35				silent	Leu - Leu	exon
hdzip transcription factor	athb8	36				silent	-	intron
hdzip transcription factor	athb8	37				silent	-	3'UTR
cinnamyl-alcohol dehydrogenase	cad	38				silent	-	intron
cinnamyl-alcohol dehydrogenase	cad	39				silent	-	intron
cinnamyl-alcohol dehydrogenase	cad	40				silent	-	intron
cinnamyl-alcohol dehydrogenase	cad	41				silent	-	intron
cinnamyl-alcohol dehydrogenase	cad	42	*		*	silent	-	intron
cinnamyl-alcohol dehydrogenase	cad	43				silent	-	intron
caffeate 3-O-methyltransferase	comt2	44				silent	-	intron
caffeate 3-O-methyltransferase	comt2	45	*	*	*	non - synon	Asn - Ser	exon
alpha expansin	aexp1	46				silent	-	5'UTR
alpha expansin	aexp1	47				silent	-	intron
alpha expansin	aexp1	48				silent	Gly - Gly	exon
alpha expansin	aexp1	49				silent	Ala - Ala	exon
alpha expansin	aexp1	50	*	*	*	silent	-	intron
alpha expansin	aexp1	51	*		*	silent	-	3'UTR
glycine hydroxymethyltransferase	glyhmt	52				silent	-	intron
glycine hydroxymethyltransferase	glyhmt	53				silent	-	intron
glycine hydroxymethyltransferase	glyhmt	54				silent	-	intron

glycine hydroxymethyltransferase	glyhmt	55					silent	-	intron
glycine hydroxymethyltransferase	glyhmt	56					silent	-	intron
glycine rich cell wall protein	Lp5	57	*	*	*		silent	Asp - Asp	exon
myb 1 transcription factor (<i>P. taeda</i>)	lim1	58					silent	-	intron
myb 1 transcription factor (<i>P. taeda</i>)	lim1	59	*		*		silent	Ser - Asn	intron
phenylalanine ammonia lyase 1 (<i>P. taeda</i>)	pal	60	*	*	*	*	silent	Gly - Gly	exon
phenylalanine ammonia lyase 1 (<i>P. taeda</i>)	pal	61	*		*		silent	Leu - Leu	exon
phenylalanine ammonia lyase 1 (<i>P. taeda</i>)	pal	62					silent	Glu - Glu	exon
phenylalanine ammonia lyase 1 (<i>P. taeda</i>)	pal	63					silent	His - His	exon
phenylcoumaran benzylic ether reductase	pcber	64	*		*	*	silent	-	intron
phenylcoumaran benzylic ether reductase	pcber	65					silent	-	intron
phenylcoumaran benzylic ether reductase	pcber	66					silent	-	intron
alpha expansin	aexp1	67					silent	-	5'UTR
hdzip transcription factor	athbx	68					silent	-	intron
hdzip transcription factor	athbx	69	*	*	*		silent	His - His	exon
cinnamyl-alcohol dehydrogenase	cad	70					silent	-	intron
cinnamyl-alcohol dehydrogenase	cad	71					silent	-	intron
cinnamyl-alcohol dehydrogenase	cad	72					silent	-	intron
cinnamyl-alcohol dehydrogenase	cad	73					non - synon	Gly - Arg	exon
cinnamyl-alcohol dehydrogenase	cad	74					silent	-	intron
cinnamyl-alcohol dehydrogenase	cad	75					silent	-	intron
cinnamoyl-CoA reductase	ccr1	76					silent	-	intron
cinnamoyl-CoA reductase	ccr1	77					silent	-	5'UTR
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	78					silent	-	intron
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	79					silent	-	intron
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	80					silent	Ala - Ala	exon
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	81					silent	-	intron
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	82					non - synon	Gly - Ser	exon
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	83					silent	Thr - Thr	exon

cellulose synthase 3 (<i>P. radiata</i>)	cesa1	84	*	*	*	silent	-	intron
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	85				silent	-	intron
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	86				non - synon	Pro - Leu	exon
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	87				non - synon	Lys - Glu	exon
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	88				silent	-	intron
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	89	*		*	silent	-	intron
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	90				silent	-	intron
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	91				silent	Thr - Thr	exon
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	92				non - synon	Val - Val/Met	exon
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	93				silent	-	intron
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	94				silent	Gln - Gln	exon
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	95				silent	-	intron
cellulose synthase 3 (<i>P. radiata</i>)	cesa1	96				silent	-	intron
cellulose synthase 7 (<i>P. radiata</i>)	cesa2	97	*		*	silent	Pro - Pro	exon
cellulose synthase 1 (<i>P. radiata</i>)	cesa3	98				silent	-	3'UTR
cellulose synthase 1 (<i>P. radiata</i>)	cesa3	99				silent	-	intron
cellulose synthase 1 (<i>P. radiata</i>)	cesa3	100				non - synon	Lys - Ala	exon
cellulose synthase 1 (<i>P. radiata</i>)	cesa3	101				silent	-	intron
cellulose synthase 1 (<i>P. radiata</i>)	cesa3	102				silent	-	intron
COBL4 (<i>A. thaliana</i>)	cobl4	103				silent	Lys - Lys	exon
COBL4 (<i>A. thaliana</i>)	cobl4	104				silent	-	intron
COBL4 (<i>A. thaliana</i>)	cobl4	105				silent	-	intron
COBL4 (<i>A. thaliana</i>)	cobl4	106				silent	-	intron
dehydrin 2 (<i>A. thaliana</i>)	dh2	107				non - synon	Thr - Ala	exon
dehydrin 2 (<i>A. thaliana</i>)	dh2	108				non - synon	Gly - Asp	exon
dehydrin 7/8 (<i>A. thaliana</i>)	dh7/8	109				non - synon	Arg - Gly	exon
dehydrin 7/8 (<i>A. thaliana</i>)	dh7/8	110				non - synon	Val - Ile	exon
katanin (fragile fibre mutant 2) (<i>A. thaliana</i>)	fra2	111				silent	-	intron
katanin (fragile fibre mutant 2) (<i>A. thaliana</i>)	fra2	112				silent	-	intron

katanin (fragile fibre mutant 2) (<i>A. thaliana</i>)	fra2	113	*		*	silent	-	intron
korrigan (endo-1,4- b-D-glucanase)	kor	114				silent	-	intron
korrigan (endo-1,4- b-D-glucanase)	kor	115				silent	-	intron
korrigan (endo-1,4- b-D-glucanase)	kor	116				silent	Ala - Ala	exon
korrigan (endo-1,4- b-D-glucanase)	kor	117				silent	-	intron
rac13 GTPase (<i>G. hirsutism</i>)	rac13	118	*	*	*	silent	-	5'UTR
sucrose synthase	susy	119				silent	-	intron
xyloglucan endotransglycosylase 1 (<i>P. taeda</i>)	xet1	120				silent	-	5'UTR
xyloglucan endotransglycosylase 1 (<i>P. taeda</i>)	xet1	121				silent	-	5'UTR
lim 1 transcription factor (<i>P. taeda</i>)	lim1	122				non - synon	Cys - Phe	exon
S-adenosyl-L-homocysteine hydrolase	sahh1	123				silent	-	3'UTR
S-adenosyl-L-homocysteine hydrolase	sahh1	124				silent	-	3'UTR
S-adenosyl-L-methionine synthase 2 (<i>P. taeda</i>)	sam2	125				silent	-	5'UTR
S-adenosyl-L-methionine synthase 1 (<i>P. taeda</i>)	sam1	126				silent	Val - Val	exon
S-adenosyl-L-methionine synthase 2 (<i>P. taeda</i>)	sam2	127				silent	-	5'UTR
S-adenosyl-L-methionine synthase 1 (<i>P. taeda</i>)	sam1	128				silent	Asp - Asp	exon
rac13 GTPase (<i>G. hirsutism</i>)	rac13	129				silent	-	3'UTR
rac13 GTPase (<i>G. hirsutism</i>)	rac13	130				silent	-	intron
S-adenosyl-L-homocysteine hydrolase	sahh1	131	*	*	*	silent	-	3'UTR
S-adenosyl-L-methionine synthase 1 (<i>P. taeda</i>)	sam1	132				silent	Phe - Phe	exon
S-adenosyl-L-methionine synthase 1 (<i>P. taeda</i>)	sam1	133	*		*	silent	-	3'UTR
S-adenosyl-L-methionine synthase 1 (<i>P. taeda</i>)	sam1	134				silent	-	3'UTR
S-adenosyl-L-methionine synthase 1 (<i>P. taeda</i>)	sam1	135				silent	Val - Val	exon
S-adenosyl-L-methionine synthase 2 (<i>P. taeda</i>)	sam2	136				silent	-	5'UTR
S-adenosyl-L-methionine synthase 2 (<i>P. taeda</i>)	sam2	137				silent	-	5'UTR
S-adenosyl-L-methionine synthase 2 (<i>P. taeda</i>)	sam2	138				silent	-	5'UTR

chloroplastic superoxide dismutase	sodchl	139				silent	-	intron
chloroplastic superoxide dismutase	sodchl	140				silent	-	intron
chloroplastic superoxide dismutase	sodchl	141				silent	Ile - Ile	exon
alpha tubulin	atub	142				silent	-	intron
alpha tubulin	atub	143				silent	Ala - Ala	exon
cellulose synthase 1 (<i>P. radiata</i>)	cesa3	144				silent	-	3'UTR
proline rich protein	prp	145				silent	-	3'UTR
sucrose synthase	susy	146	*	*	*	silent	-	intron
xyloglucan endotransglycosylase 1 (<i>P. taeda</i>)	xet1	147				silent	-	5'UTR
xyloglucan endotransglycosylase 1 (<i>P. taeda</i>)	xet1	148				silent	Val - Val	exon
xyloglucan endotransglycosylase 1 (<i>P. taeda</i>)	xet1	149				silent	-	intron

A = p-value < 0.05 in discovery population

short-list = SNP in discovery population shortlisted based on q-values (Table 3)

validation = SNP re-tested in validation population

B = p-value < 0.05 in validation population