

(TC) ₇	ATG	GAT	GCC	TTC	TCT	TCC	TCT	TTC	CTA	TCC	ACA	TTT	CCC	ACT	CAA	AAT	CTC	TCT	CTC	TCT
SNP	ATG	GAT	GCC	TTC	TCT	TCC	TCT	TTC	CTA	TCC	ACA	TTT	CCC	ACT	CAA	AAT	CTC	TCT	CTC	TCT
(TC) ₈	ATG	GAT	GCC	TTC	TCT	TCC	TCT	TTC	CTA	TCC	ACA	TTT	CCC	ACT	CAA	AAT	CTC	TCT	CTC	TCT
				X																
(TC) ₇	CCT	GCC	ATA	GCA	ACC	CCC	AAG	TTC	AGC	ATT	TCC	TCT	GTT	AGA	ATT	GAA	GAA	AGA	CCA	TCA
SNP	CCT	GCC	ATA	GCA	ACC	CCC	AAG	TTC	AGC	ATT	TCC	TCT	GTT	AGA	ATT	GAA	GAA	AGA	CCA	TCA
(TC) ₈	CTC	CTG	CCA	TAG																
(TC) ₇	AGC	CCA	CCA	CCA	GCT	TCA	AAA	CCC	ACC	TCC	ACA	AAA	GCA	CCA	CAG	CCT	CCA	AAA	ACT	CCA
SNP	AGC	CCA	CCA	CCA	GCT	TCA	AAA	CCC	ACC	TCC	ACA	AAA	GCA	CCA	CAG	CCT	CCA	AAA	ACT	CCA
(TC) ₇	TCC	CCG	CCA	CTA	ACA	ACA	AAA	GCT	CGC	GAT	TAC	AAC	AAT	GCT	TCA	ACA	TTC	TCT	GCG	GCA
SNP	TCC	CCG	CCA	CTA	ACA	ACA	AAA	GCT	CGC	GAT	TAC	AAC	AAT	GCT	TCA	ACA	TTC	TCT	GCG	GCA
(TC) ₇	AAA	AAA	GGA	ACA	GAT	CCT	ACG	CTA	CCT	GCG	GTG	ATC	TTC	AAC	GCT	TTG	GAT	GAC	ATC	ATA
SNP	AAA	AAA	GGA	ACA	GAT	CCT	ACG	CTA	CCT	GCG	GTG	ATC	TTC	AAC	GCT	TTG	GAT	GAC	ATC	ATA
(TC) ₇	AAC	AAC	TTC	ATA	GAC	CCT	CCA	CTG	CGC	CCT	TCT	GTG	GAC	CCA	AAG	CAC	GTC	CTC	TCC	AAC
SNP	AAC	AAC	TTC	ATA	GAC	CCT	CCA	CTG	CGC	CCT	TCT	GTG	GAC	CCA	AAG	CAC	GTC	CTC	TCC	AAC
(TC) ₇	AAC	TTT	GCT	CCG	GTT	GAT	GAG	CTT	CCT	CCG	ACC	GAG	TGT	GAG	ATC	ATA	CAG	GGC	TCC	CTA
SNP	AAC	TTT	GCT	CCG	GTT	GAT	GAG	CTT	CCT	CCG	ACC	GAG	TGT	GAG	ATC	ATA	CAG	GGC	TCC	CTA
(TC) ₇	CCG	CCG	TGC	CTC	GAC	GGT	GCC	TAC	ATC	CGC	AAT	GGC	CCG	AAC	CCG	CAG	TAC	CTT	CCG	CGT
SNP	CCG	CCG	TGC	CTC	GAC	GGT	GCC	TAC	ATC	CGC	AAT	GGC	CCG	AAC	CCG	CAG	TAC	CTT	CCG	CGT
(TC) ₇	GGG	CCC	TAC	CAC	CTG	TTT	GAC	GGA	GAC	GGC	ATG	CTT	CAC	TCT	GTT	AGG	ATC	TCC	AAA	GGC
SNP	GGG	CCC	TAC	CAC	CTG	TTT	GAC	GGA	GAC	GGC	ATG	CTT	CAC	TCT	GTT	AGG	ATC	TCC	AAA	GGC
(TC) ₇	CGT	GCC	GTG	CTG	TGC	AGC	CGC	TAT	GTC	AAG	ACC	TAC	AAA	TAC	ACC	ATT	GAG	CGT	GAT	GCT
SNP	CGT	GCC	GTG	CTG	TGC	AGC	CGC	TAT	GTC	AAG	ACC	TAC	AAA	TAC	ACC	ATT	GAG	CGT	GAT	GCT
(TC) ₇	GGC	TAC	CCT	ATT	CTT	CCC	AGC	GTC	TTC	TCT	GGC	TTC	AAC	GGC	CTC	ACT	GCC	TCC	GCC	ACA
SNP	GGC	TAC	CCT	ATT	CTT	CCC	AGC	GTC	TTC	TCT	GGC	TTC	AAC	GGC	CTC	ACT	GCC	TCC	GCC	ACA
(TC) ₇	CGT	GGC	GCT	CTC	TCC	GCT	GCC	CGC	GTC	TTT	ACA	GGC	CAA	TAC	AAT	CCT	GCT	AAT	GGC	ATT
SNP	CGT	GGC	GCT	CTC	TCC	GCT	GCC	CGC	GTC	TTT	ACA	GGC	CAA	TAC	AAT	CCT	GCT	AAT	GGC	ATT
(TC) ₇	GGT	CTT	GCA	AAC	ACA	AGT	TTG	GCT	TTC	TTT	GGC	AAC	CAA	CTT	TAT	GCG	CTT	GGC	GAG	TCT
SNP	GGT	CTT	GCA	AAC	ACA	AGT	TTG	GCT	TTC	TTT	GGC	AAC	CAA	CTT	TAT	GCG	CTT	GGC	GAG	TCT
(TC) ₇	GAT	CTC	CCT	TAT	TCT	TTG	CGT	TTG	ACA	TCC	AAT	GGA	GAT	ATC	CAA	ACT	CTG	GGA	CGC	CAT
SNP	GAT	CTC	CCT	TAT	TCT	TTG	CGT	TTG	ACA	TCC	AAT	GGA	GAT	ATC	CAA	ACT	CTG	GGA	CGC	CAT
(TC) ₇	GAT	TTT	GAT	GGC	AAG	CTC	TTC	ATG	AGC	ATG	ACG	GCT	CAT	CCA	AAG	ATA	GAC	CCT	GAA	ACA
SNP	GAT	TTT	GAT	GGC	AAG	CTC	TTC	ATG	AGC	ATG	ACG	GCT	CAT	CCA	AAG	ATA	GAC	CCT	GAA	ACA
(TC) ₇	GGG	GAG	GCC	TTT	GCC	TTC	CGC	TAC	GGC	CCC	TTG	CCT	CCA	TTT	CTA	ACA	TAC	TTT	CGG	TTT
SNP	GGG	GAG	GCC	TTT	GCC	TTC	CGC	TAC	GGC	CCC	TTG	CCT	CCA	TTT	CTA	ACA	TAC	TTT	CGG	TTT
(TC) ₇	GAT	GCA	AAC	GGC	ACA	AAG	CAG	CCA	GAC	GTG	CCC	ATA	TTT	TCT	ATG	GTC	ACT	CCA	TCG	TTC
SNP	GAT	GCA	AAC	GGC	ACA	AAG	CAG	CCA	GAC	GTG	CCC	ATA	TTT	TCT	ATG	GTC	ACT	CCA	TCG	TTC
(TC) ₇	CTC	CAC	GAC	TTT	GCA	ATC	ACA	AAA	AAA	TAT	GCC	ATC	TTT	GTT	GAC	ATA	CAA	ATT	GGC	ATG
SNP	CTC	CAC	GAC	TTT	GCA	ATC	ACA	AAA	AAA	TAT	GCC	ATC	TTT	GTT	GAC	ATA	CAA	ATT	GGC	ATG
(TC) ₇	AAC	CCA	ATT	GAC	ATG	ATC	ACC	AAA	GGA	GCA	TCG	CCT	GTT	GGC	TTG	GAC	CCT	TCC	AAG	GTG
SNP	AAC	CCA	ATT	GAC	ATG	ATC	ACC	AAA	GGA	GCA	TCG	CCT	GTT	GGC	TTG	GAC	CCT	TCC	AAG	GTG
(TC) ₇	CCT	AGA	ATC	GGA	GTG	ATC	CCG	CGA	TAC	GCG	AAA	GAT	GAA	ACG	GAG	ATG	AGG	TGG	TTT	GAT
SNP	CCT	AGA	ATC	GGA	GTG	ATC	CCG	CGA	TAC	GCG	AAA	GAT	GAA	ACG	GAG	ATG	AGG	TGG	TTT	GAT
(TC) ₇	GTG	CCT	GGT	TTT	AAC	ATC	ATA	CAT	GCC	ATC	AAT	GCT	TGG	GAT	GAA	GAG	GAT	GCT	ATA	GTG
SNP	GTG	CCT	GGT	TTT	AAC	ATC	ATA	CAT	GCC	ATC	AAT	GCT	TGG	GAT	GAA	GAG	GAT	GCT	ATA	GTG
(TC) ₇	ATG	GTG	GCA	CCA	AAC	ATT	TTG	TCA	GCA	GAG	CAC	ACA	ATG	GAG	AGA	ATG	GAT	TTG	ATC	CAT
SNP	ATG	GTG	GCA	CCA	AAC	ATT	TTG	TCA	GCA	GAG	CAC	ACA	ATG	GAG	AGA	ATG	GAT	TTG	ATC	CAT
(TC) ₇	GCT	TCG	GTT	GAG	AAA	GTT	AGG	ATT	GAT	CTC	AAG	ACA	GGG	ATT	GTG	TCA	AGG	CAA	CCC	ATC
SNP	GCT	TCG	GTT	GAG	AAA	GTT	AGG	ATT	GAT	CTC	AAG	ACA	GGG	ATT	GTG	TCA	AGG	CAA	CCC	ATC
(TC) ₇	TCC	ACA	AGA	AAT	CTA	GAC	TTT	GCT	GTG	TTC	AAT	CCG	GCT	TAT	GTG	GGG	AAG	AAG	AAC	AAG
SNP	TCC	ACA	AGA	AAT	CTA	GAC	TTT	GCT	GTG	TTC	AAT	CCG	GCT	TAT	GTG	GGG	AAG	AAG	AAC	AAG
(TC) ₇	TAT	GTT	TAT	GCA	GCT	GTG	GGT	GAT	CCA	ATG	CCT	AAG	ATA	TCA	GGG	GTG	GTG	AAA	TTA	GAT
SNP	TAT	GTT	TAT	GCA	GCT	GTG	GGT	GAT	CCA	ATG	CCT	AAG	ATA	TCA	GGG	GTG	GTG	AAA	TTA	GAT
(TC) ₇	GTG	TCC	AAT	GTG	GAG	CAC	AAG	GAG	TGT	ATA	GTG	GCT	AGC	AGG	ATG	TTT	GGG	CCA	GGG	TGC
SNP	GTG	TCC	AAT	GTG	GAG	CAC	AAG	GAG	TGT	ATA	GTG	GCT	AGC	AGG	ATG	TTT	GGG	CCA	GGG	TGC
(TC) ₇	TAT	GGG	GGT	GAG	CCG	TTT	TTC	GTG	GCT	AGA	GAG	CCC	GAG	AAT	CCG	GAG	GCA	GAT	GAG	GAC
(TC) ₇	GAT	GGG	TAC	GTG	GTG	ACG	TAT	GTT	CAT	GAT	GAG	AAG	GCA	GGA	GAA	TCA	AGC	TTC	TTG	GTG
(TC) ₇	ATG	GAT	GCC	AAG	TCT	CCT	CGG	CTT	GAT	ATT	GTG	GCA	GAT	GTG	AGG	CTG	CCC	CGG	CGG	GTG
(TC) ₇	CCT	TAT	GGC	TTC	CAT	GGA	CTC	TTT	GTG	AAG	GAA	AGT	GAT	CTC	AAC	AAG	TTG	TAG		

Figure S3. Premature stop codons. Comparison of nucleotide sequence of the (TC)₈ PpCCD4 allele (pink), and the (TC)₇+SNP allele (green) as compared with the (TC)₇ allele (black). Premature stop codons are indicated by (X).