

Supplement E. Primer pairs and conditions used to amplify PG genes

Gene ID		Primer Pair Sequence	Annealing Temp. (°C)	# of Cycles
Atlg02460	PG1F PG1R	TGATTGTGTATCGATTGGCTCC CATTCCAACAAAACGGATCCA	62	36
Atlg02790	PG2F PG2R	AAGATTGGGTCAACAATCCG CAGACAGCTTCACCTTTCCCG	62	36
	PG2F-A PG2R-A	GCTCCAACAACGTAACCGTCGAA CGAAGATAACATTGGCGTTATCGCA	64	36
Atlg05650	PG3F PG3R	AACTCCGCAAAAAGACGTGAT GTTGGACGGACAATAGTTTTGG	62	36
	PG3AF PG3AR	CAAAAACGGCGTGAGGATAA TCCAGTTAAAGCTTCTTTCTCT	59	36
Atlg05660	PG4F PG4R	GAAGGAAGTAAAGAAGACGGAGTA TCGGTTTAGACAACACTAGTAGGTTGA	62	36
Atlg10640	PG5F PG5R	TGGGAGTTTTGGTGTGGAAAGT TGCTATGGTCACAGTAGAATTGG	55 (62)	36
Atlg17150	PG6F PG6R	GACCGGACATGGAATTAGTA ACAATGCGGAGGAACCATCTT	62	36
	PG6F-A PG6R-A	TGTGTTTCATGGCTTTTGGTTTGC GGGACAATTATTGCTCTTCTGGCA	64	36
Atlg19170	PG7F PG7R	CGAGGATATGGTAATTGAGGA TAGTCAATGTCCGCCACATT	62	28
Atlg23450	PG8F PG8R	GGTCTGGATGCCAAGGCTTTGTAT AGTCTGGCAAAAACATCGAACA	62	36
Atlg23460	PG9F PG9R	GGTTTTGGAGTAAAAGCAAAGA CAACTTTTGTTCACATGGACC	62	36
	PG9F-A PG9R-A	CCAGCAATTGGGACTCAAAGTTC TCCATGTCCAGGTCCACAATAGAT	64	36
Atlg23470	PG10F PG10R	GCGAAAGCCATCAAATTTGC TGTTGTTACATGAAGAAAGCA	62	36
	PG10F-A PG10R-A	TCAGCCATATAATGTACGGAACA CACACGTGACAGACATATCAAACAA	64	36
Atlg43080	PG11F PG11R	ATTGACGTTGGAAAACCG CAATGAAAAGTTGAGATTAGGA	62	36
Atlg43090 Atlg43100	PG12-13F PG12-13R	TTGATCAGAAGTATTGCCCTCACC GGGTAAATGGAGGAAGCTCGA	62	36
Atlg43100	PG13F-A PG13R-A	CGAAAAGGAAAATTCTACCTCGGTG ATGTCCAGGACCACACTTGACGTT	64	36
Atlg43080 Atlg43090 Atlg43100	PG11-13F PG11-13R	CGTGAACAACCTCAAGAAATCAAAGAC CCTTCTCGAGTCCAGTATGCTTT	64	36
Atlg48100	PG14F PG14R	CCAGACGGATCATCATAGT CGACAGAATTGTAATGCCAA	62	36
Atlg56710	PG15F PG15R	TTGTATCGCCCCGATGGAC TGCGAATCTGAACATTGTGTG	62	36
Atlg60590	PG16F PG16R	AAACCGGTTGCTCCAATGTGT TCCATTTCCGCTGGCTTT	62	27
Atlg65570	PG17F PG17R	ATAGCAACGGTTCTGTGGAG CGTGAATTTGTTGGCCTTT	62	36
	PG17F-A PG17R-A	CGCCGTTTGCTTAATACCTTGATTC CAAGAACCGTAACATTGTGAACACC	64	36
Atlg70500	PG18F PG18R	CTCTGTTGCTCTGTTGATGG CATCGAATTTTCGTCGATTT	62	36
Atlg78400	PG19F PG19R	TCCGGTTTTAGCTTAATTTTG TCGCCAGTTGCTATGTCAA	62	36
	PG19F-A PG19R-A	TCCAGATGATTGATGTCCAAAGCC GGCGAGTGGAGATATCAACTTTTAC	64	36
Atlg80140	PG20F PG20R	GGAGGAACAGAGGTAACAGTGGGA AGCAGTGACCGAAAAGGGA	62	36
	PG20F-A PG20F-A	GGAATTGTCGATGATACATCTGTAA ATTTGCCTTGGCCGTCAA	61	36
Atlg80170	PG21F PG21R	TGAACAATGTGTCAAACCCCA ATGCAGATGTGATCCCGACT	62	27
At2g15450 At2g15460	PG22F PG22R	CAATCGCTAATGATCTTTCATGTT ACTTATCCTTTTGAAGCACGG	62	36

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At2g15470	PG22F-A PG22R-A	ACCGTTCATAGAGACAAGCTAACTC TAGGACAATTGGGGTTTGTGTG	62	36
At2g23900	PG25F PG25R	TGAAGTATCGCAGTGGTGGATTT TGAAAGGAATCGTTCCTGAACCC	62	36
At2g26620	PG26F PG26R	TTGGTATATGACAGAATGTGATTG GTTAGGATTTGCAGGCGCTAAT	62	36
	PG26F-A PG26R-A	CTCTCTGGAACCACTAAACTCAATA TTCTTAGCTCTAAATGTTCAACTGC	61	36
At2g33160	PG27F PG27R	AGATAGCCCTAATACCGACGGAAT CATGAGAAGCATACTTCCAGGAC	62	36
At2g40310	PG28F PG28R	CAGCTTCAAAAATCCTCGTTTCG TCTTCAGATGAACCGGATTTATTG	62	36
	PG28F-A PG28R-A	GAGATGCTAACTCTATATAAGCTGA GTCATTGAGTGGCCAAGATTGT	56	36
At2g41850	PG29F PG29R	CCAAAAACGACAGCATTCTCT CAGCTCCATTTGAAGAACATGC	62	36
At2g43860	PG30F PG30R	CTACTGTCTTCATAAACCTTGCCCT AGTCATGGAGCAATCGGGAC	60 (62)	36
	PG30F-A PG30R-A	CCCATCTCATGTACCTTCTTCTACA CTGGCTGTTGATCGACGTTAAA	61	36
At2g43870	PG31F PG31R	ACTACTGTCCTGATCAGATTGTC CTCCCTCCATGATTTACGAAA	62	36
At2g43880	PG32F PG32R	TAATGGAAAAGGTTGTCCTCGC CGGATGAATCTAAGGTTATAAAAAAC	62	36
At2g43890	PG33F PG33R	ACTGCCCTAGTAATCAAGGTTGTC AACTCGATCACAGAAGGCAA	62	36
At3g06770	PG34F PG34R	TTGGCGGAAAAGTTCTTCA GCTTGTTACCGTTGATCAAACCTCT	62	36
At3g07820	PG35F PG35R	CCTCATCGACCAAGAGTACTGCC TGCGGATTTGCCAAACATACATG	62	36
	PG35F-A PG35R-A	CATGCCAATCTTCGTCACCAA CTTGAAGAGTGCAGTTGATGACCTT	64	36
At3g07830	PG36F PG36R	GTTCAAAAATACGAGACGTGTAATT CTTCTCGGTGTCGGAGATT	60 (55)	36
	PG36AF PG36AR	CATTTTGAGAATATCATCCTTAGA CAAGAAATTGATTGGAAAAAGA	62 (55)	36
At3g07840	PG37F PG37R	ACGGCTAAAAAATTATACGAATGT ACCAAGCTTGAACCTCACCTTT	60 (55)	36
	PG37AF PG37AR	CCGCCTCTGGTATTCATTTTGA GATTGAAACATCTTTCATTGCCAA	62 (55)	36
At3g07850	PG38F PG38R	TCACGTATAGGCCCAATTAGATAA CACAACTTCTTCCATGCAG	62	36
	PG38F-A PG38R-A	ACAATGTTAGCCTTCCCGTTCTCA GCGAATCCACACAACAATFACTACC	64	36
At3g07970	PG39F PG39R	AAAGCTTGGGAAGCAGCTTGT TTTGAAGATTTTGGCCACC	62	36
At3g14040	PG40F PG40R	TAGCCTTCCCCTTCTCATCGACCA TGCAATGAATGTTGGGTGCAACAA	62	36
	PG40F-A PG40R-A	ACCCAAAATATTGAGACTTAAACTTC ACCAAATACTCACCTTTTGGCAC	60	36
At3g15720	PG41F PG41R	GGGAAATGGAACCAAAAACATC ACAAAAACAGGGGTGGATTTGC	65	36
	PG41F-A PG41R-A	TTCTTCACATTGTCTTCCCCTG AACGACAAACTGCCCATCTCCT	62	36
At3g16850	PG42F PG42R	GCAATAATGCCATCTGCAAGGA TCAAACCTTCTGTACCGCTTTCCA	62	36
At3g26610	PG43F PG43R	TGGAAGGCAGCTTGTAAAAGTG TTGGTTTCATTGGTGGAT	62	36
At3g42950	PG44F PG44R	GACGTTTCTCTCTTCTCACAAA CAACATCTCTAAGATTCTGTCCA	62	36
At3g48950	PG45F-A PG45R-A	CCGTACTTGATCGAGATCTTGTTT TCGAGACTCGCTGACATTGTAACA	62	36
At3g57510	PG46F PG46R	AGGACAAAATGCGAAGACCAA AAGAAGCAATGCATGTAGTACAA	62	27
At3g59850	PG47F PG47R	TGGCAACGAAAATTGCCCTA CCGTAATATATATGAAAATACGACC	60(62)	36

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At3g61490	PG48F-A PG48R-A	ACGGCAAGACGCTAAACACAAA ACGGGCGAGTGTATTAGCTT	62	36
At3g62110	PG49F PG49R	TCCTGGTACAGGCCTTCTATG TCTTCTACCGGCAATTCTCTT	62	36
At4g01890	PG50F PG50R	TAGGACCCGGAGCATAACGATACGATA GGATTCCGATTTGAGACACGAG	62	36
At4g13760	PG51F PG51R	TTAGTGTGCGGAAGCTTAGGGAA TCTATGCTCGAACTATTTTCTAG	62	36
	PG51F-A PG51R-A	GCATCCCAATTTTCAGTTGTT ATCAAGTGTACCGGAACCAGA	60	36
At4g18180	PG52F PG52R	AGGGAGATATCCAAATGAGAAAAG CGTTAAACACGAACCAAAATTTAA	62	36
	PG52F-A PG52R-A	GGCGGTAAAAGAAACGGTAACT CAAGGACCAGAGAATCTGAGAGAA	62	36
At4g23500	PG53F PG53R	TTTCTCCTGATAGTGCCGTTGA TCCCGATATTCCAGCTAACTGA	62	36
At4g23820	PG54F PG54R	GTCATCCATCACGTTACGATCTTAG TAGTTCTCAGCTCCGGACACG	62	36
At4g32370	PG55F PG55R	TCGGGGTCGCCAAAAATATA CGCTGGAGGTTTAGCATAGTATACA	62	36
At4g32380	PG56F	TTCCCATCATCATCGATCA GCTCACATCAGGAAACAATATTAC	62	36
At4g33440	PG57F PG57R	AATGTGGTGGGAGTTATGGTGGAA TCGCTGAGTGATCATTGAGCCA	62	36
At4g35670	PG58F PG58R	TACGGACATCACACTCGTTAACAC GGCAGCAAATTCTGTGACTGTA	62	36
At5g14650	PG59F PG59R	TCAATTCAAACGGGATGCTCG ¹ TGTCTTCAGTTCACCGTGTGC ¹	62	36
	PG59F-A PG59R-A	TGCTCTGTTCTAAACGAAAGTAAT AGGAAGGAAACAGGTCCAACAA	58	36
	PG59F-B PG59R-B	CGTAAGTAAAGATGTTGATGTCAATT CGATTTTCTCTTTACATTCTTTTCCC	60	36
At5g17200	PG60F PG60R	TCGTTTGGCATTGTTAAATACG AGACTTGCATGGACCGATGAAT	62	36
At5g27530	PG61F PG61R	TGGACAAGGTTATGCAAGAAACA CCGCCACTGAAAGACTATTACTAT	62	36
At5g39910	PG62F PG62R	GATGCTCCAGTTTATTCTCT ACAAGGGCCATGAAACTCAA	58	36
	PG62F-A PG62R-A	CCAATCCGTTACATACAGTCATACA GTGTCTTCCCATGCATCTTTGA	62	36
At5g41870	PG63F PG63R	GACCGTTTTAAGCTAAGAGAAGG GCTGATATATCTTCGTCCAGGA	61	36
	PG63F-A PG63R-A	CAAAGTGTAGTTATGGGCTTGC ATCTTCGTCCAGGATGCTCC	63	36
	PG63F-B PG63R-B	TTTCTTCGTCCGTGCCATTACT TGAGTCCGTCTCCGTGAATAAA	62	36
At5g44830	PG64F PG64R	CTCCATTCTGTTCTTGTAATGGC TTGTTCCCGAACCATTGACT	62	36
	PG64F-A PG64R-A	CATCAGCACCCAATGGTACAT CGACCAAGCTGCTTTGTTAA	60	36
At5g44840	PG65F PG65R	GGGATACGCAAAAAATATAC CTATCCGTACAACCTCTTCAGT	53	36
	PG65F-A PG65R-A	CATTTTAGTTTTCAATGTCAATGGC GTAATACCATTTCATCCGGCAC	62	36
At5g48140	PG66F PG66R	ATCGTGATGATGGGTCCATGCAA ACAAGCAGCAGAAGGCCATGTCTT	67	36
At3g57790	PG67F PG67R	TGATGCAATCTGTCCCAAGA TCCGTTTGGTGAACCTGATA	62	36
	Oligo(T) 18	TTTTTTTTTTTTTTTTTT		

¹amplifies two bands from cDNAs

Unless indicated otherwise, annealing temperature was 62°C and 36 cycles of PCR was carried out.