10.1071/FP10246_AC



Accessory Publication: Functional Plant Biology, 2011, 38(6), 479–492.

## Accessory Publication

**Table S1. List of primers used for selective amplification of cDNA fragments in cDNA-AFLP analysis**

| S.No. | Forward primer | Reverse primer |
|---|---|---|
| 1 | 5′-GACTGCGTACCAATTCAGG-3′ | 5′-GATGAGTCCTGAGTAACAT-3′ |
| 2 | 5′-GACTGCGTACCAATTCAGG-3′ | 5′-GATGAGTCCTGAGTAACTC-3′ |
| 3 | 5′-GACTGCGTACCAATTCAGG-3′ | 5′-GATGAGTCCTGAGTAACAC-3′ |
| 4 | 5′-GACTGCGTACCAATTCAGG-3′ | 5′-GATGAGTCCTGAGTAACTT-3′ |
| 5 | 5′-GACTGCGTACCAATTCACG-3′ | 5′-GATGAGTCCTGAGTAACTC-3′ |
| 6 | 5′-GACTGCGTACCAATTCACG-3′ | 5′-GATGAGTCCTGAGTAACAC-3′ |
| 7 | 5′-GACTGCGTACCAATTCACG-3′ | 5′-GATGAGTCCTGAGTAACTT-3′ |
| 8 | 5′-GACTGCGTACCAATTCACG-3′ | 5′-GATGAGTCCTGAGTAACTA-3′ |
| 9 | 5′-GACTGCGTACCAATTCAAC-3′ | 5′-GATGAGTCCTGAGTAACTC-3′ |
| 10 | 5′-GACTGCGTACCAATTCAAC-3′ | 5′-GATGAGTCCTGAGTAACAC-3′ |
| 11 | 5′-GACTGCGTACCAATTCAAC-3′ | 5′-GATGAGTCCTGAGTAACTA-3′ |
| 12 | 5′-GACTGCGTACCAATTCACT-3′ | 5′-GATGAGTCCTGAGTAACAT-3′ |
| 13 | 5′-GACTGCGTACCAATTCACT-3′ | 5′-GATGAGTCCTGAGTAACAC-3′ |
| 14 | 5′-GACTGCGTACCAATTCACT-3′ | 5′-GATGAGTCCTGAGTAACTT-3′ |
| 15 | 5′-GACTGCGTACCAATTCACT-3′ | 5′-GATGAGTCCTGAGTAACAA-3′ |
| 16 | 5′-GACTGCGTACCAATTCAAG-3′ | 5′-GATGAGTCCTGAGTAACTC-3′ |
| 17 | 5′-GACTGCGTACCAATTCAAG-3′ | 5′-GATGAGTCCTGAGTAACAA-3′ |

**Table S2. List of primers used for quantitative RT-PCR analysis**

| Ta gene ID | Forward primer | Reverse primer |
|---|---|---|
| TaSRGM 20 | 5′-ATACTGACCTTGTCCCCTGTAAAGC-3′ | 5′-GGCGCCCAATCGGATT-3′ |
| TaSRGM 21 | 5′-TGCTCGAGTATCTGGTACTTACAGATG-3′ | 5′-CGCCCGAATCACCCATT-3′ |
| TaSRGM 93 | 5′-TGCCGGCCTTCTTGAAAAC-3′ | 5′-CACGGCACCCCGGATA-3′ |
| TaSRGM 94 | 5′-ACACACATCCCTACTAATGATTCTTCA-3′ | 5′-AGGGCCAATCAGTCTTATTGTTTC-3′ |
| TaSRGM 96 | 5′-CGGGTGGCTTGCAGTACACT-3′ | 5′-GGCACTGGCCTACCTAACAAAAC-3′ |
| TaSRGM 137 | 5′-GGCATCTCCCCTTTATTGCTT-3′ | 5′-AGAGAATGCATGATTCTCAAAACAA-3′ |
| TaSRGM 142 | 5′-TGTTACCAAAGGAGGGACATTT-3′ | 5′-CACGTGTGCATGTAGCTCAA-3′ |
| TaSRGM 144 | 5′-TCAGCCTTGTCTGCCTCCTT-3′ | 5′-GGCTCCTGATCCAGCAGTTC-3′ |
| TaSRGM 164 | 5′-AACTATCTGCAGCAAAGTCATCAGTAG-3′ | 5′-AAAATCATTGCCATCACTGTTACC-3′ |
| TaSRGM 166 | 5′-CAGGGCTATCGCCTCTATGAA-3′ | 5′-CGACATGATCACTAGTTTTAGGACATTC-3′ |
| TaSRGM 281 | 5′-CCAGCAACGCAAAGTTCTGA-3′ | 5′-CGGCGTTCTTCCCGTTT-3′ |
| TaSRGM 285 | 5′-ACTTTCTCGGTCGACTGTTTCC-3′ | 5′-GGTTGAGAAGAAGGTCGAAGACA-3′ |
| TaSRGM 308 | 5′-CCCTCGATGATTTGCGTTATC-3′ | 5′-TTGCTGGAAACACGAACAAGTT-3′ |
| TaSRGM 310 | 5′-GACAGGGCTACCAAGTCTTCTTTT-3′ | 5′-TGGTTATTTCCAGGCCAGTGA-3′ |
| TaSRGM 340 | 5′-GGCCTTCTTGAAAACCCAACA-3′ | 5′-CACGGCACCCCGGATAA-3′ |
| TaSRGM 359 | 5′-TCCGATTCCAAAGGCATCA-3′ | 5′-TGACCTGAATGAGGAAACAATTGA-3′ |
| TaSRGM 360 | 5′-CAACATTTTCATCTTGTCCATGATTC-3′ | 5′-AACATATGCTTCGTGAGCTAGCAT-3′ |
| TaSRGM 369 | 5′-GGGATCCCAAAACAGTGAGTAATAG-3′ | 5′-TCTCGGTCACAACAGTCACAGTT-3′ |
| Wheat Actin | 5′-CCTTGTTTGCGACAATGGAA-3′ | 5′-AGCCCTTGGTGCATCATCTC-3′ |

**Table S3. Details of conserved motifs found in the translated sequences**

| Name of motif | Function/role of motifs | Species | References |
|---|---|---|---|
| Protein kinase C phosphorylation site | Regulated by calcium dependent protein kinase C. CDPKs participate in signaling pathways triggered by different external stimuli (i.e. biotic and abiotic stress) and required in the defense-related signal cascade to induce hypersensitive response. | *N. tabacum* | Romeis *et al.* (2001) |
| N-myristoylation sites | N-myristoylation sites are found in SOS3 gene of *A. thaliana* and required for its function in salt tolerance | *A. thaliana* | Ishitani *et al.* (2000) |
| CK2 phosphorylation site | Responsible for the functional relevance of the phosphorylation status of genes by CK2. And found in conserved binding domains i.e. plant translation initiation factors. Regulated by CK2 in absence of second messengers. | *T. aestivum* and *A. thaliana* | Dennis *et al.* (2009) |
| N-glycosylation sites | Found in type 1 transmembrane proteins that becomes N-glycosylated during transport to the cell membrane, leading to regulation of transferrin binding to transferrin receptors. Pattern recognition receptors require *N*-glycosylation to mediate plant immunity | *H. sapiens and A. thaliana* | Bhatt *et al.* (2010), Häweker *et al.* (2009) |
| Amidation site | Amidation sites are c terminus consensus sequences of glycine, followed by 2 basic amino acids (arg or lys), required for c terminus amidation of peptides. Found in R-genes such as CN genes which belong to the TIR/NBS/LRR gene class. CN gene was reported to be up-regulated in response to TMV infection and temperature stress in Tobacco | *N. tabacum* | Zhang *et al.* (2009) |
| cAMP- and cGMP-dependent protein kinase phosphorylation site | Key regulators of polar auxin transport and signaling in plants | *A. thaliana* | Christensen *et al.* (2000), Benjamins *et al.* (2001) |

**References**

Benjamins R, Quint A, Weijers D, Hooykaas P, Offringa R (2001) The PINOID protein kinase regulates organ development in *Arabidopsis* by enhancing polar auxin transport. *Development* **128**, 4057–4067.

Bhatt L, Murphy C, O'Driscoll LS, Carmo-Fonseca M, McCaffrey MW, Fleming JV (2010) N-Glycosylation is important for the correct intracellular localization of HFE and its ability to decrease cell surface transferrin binding. *FEBS J* **277**, 3219–3234.

Christensen SK, Dagenais N, Chory J, Weigel D (2000) Regulation of auxin response by the protein kinase PINOID. *Cell* **100**, 469–478.

Dennis MD, Person MD, Browning KS (2009) Phosphorylation of plant translation initiation factors by CK2 enhances the in vitro interaction of multifactor complex components. *J Biol Chem* **284**, 20615–20628.

Häweker H, Rips S, Koiwa H, Salomon S, Saijo Y, Chinchilla D, Robatzek S, Schaewen A (2009) Pattern recognition receptors require N-glycosylation to mediate plant immunity. *J Biol Chem* **285**, 4629–4636.

Ishitani M, Liu J, Halfter U, Kim CS, Shi W, Zhu JK (2000) SOS3 function in plant salt tolerance requires N-myristoylation and calcium binding. *Plant Cell* **12**, 1667–1677.

Romeis T, Ludwig AA, Martin R, Jones JDG (2001) Calcium-dependent protein kinases play an essential role in a plant defence response. *EMBO J* **20**, 5556–5567.

Zhang GY, Chen M, Guo JM, Xu T, Li LC, Xu ZS, Ma YZ, Chen XP (2009) Isolation and characteristics of the CN gene, a tobacco mosaic virus resistance N gene homolog, from tobacco. *Biochem Genet* **47**, 301–314.