

Supplementary Material

Biochemical and molecular characterisation of salt-induced poor grain filling in a rice cultivar

Binay B. Panda^A, Alok K. Badoghar^A, Sudhanshu Sekhar^A, Ekamber Kariali^B, Pravat K. Mohapatra^B and Birendra P. Shaw^{A,C}

^AEnvironmental Biotechnology Laboratory, Institute of Life Sciences, Nalco Square, Bhubaneswar-751023, Odisha, India.

^BSchool of Life Sciences, Sambalpur University, Sambalpur, 768019, Odisha, India.

^CCorresponding author. Email: bpshaw@ils.res.in

Ethylene receptors and signaling proteins

Genes	Forward primer	Reverse primer
ERS1 (NM_001057539.1, BGIOSGA009973-TA)	5'-GAACCCAGATTTTCACCCAAC-3'	5'-CAAGACCACTACCACTGTATCCTC-3'
ERS2 (NM_001061224.1, BGIOSGA018780-TA)	5'-AACCATGAAATGCGGACTCCTAT-3'	5'-ATTTCCAGCTCAAGACTCCCATT-3'
ETR2 (NM_001058678.1, BGIOSGA015886-TA)	5'-CAGTGCTGAGTCATCTTTCCAG-3'	5'-GATCAGACCGTTTATTCTGCC-3'
ETR3 (NM_001055082.1, BGIOSGA009308-TA)	5'-AGGGCATTGATCTCAGACTTAGC-3'	5'-CTTCTGCTCGAATGATCCTCCAA-3'
ETR4 (NM_001065853.1, BGIOSGA024506-TA)	5'-GTATAGCCTTGACTGGATCCCG-3'	5'-TTGTTGAAGTAGCCGCTGAAGAT-3'
EIN2 (NM_001065455.1, BGIOSGA025172-TA)	5'-ATTGACCTCGGGAAATGGGTG-3'	5'-CATGAAGTTGAAGAGGAGGGCC-3'
EIN3 (NM_001056513.1, BGIOSGA012535-TA)	5'-GAAGCCCCATGACCTCAAGAA-3'	5'-GGGGTTCAGCTTCAGGTACAG-3'
ERF2 (NM_001069787.1, BGIOSGA030816-TA)	5'-ACATATAAACTGCTGAGGAGGC-3'	5'-TCAGAGGTGGAGCTAGTTTCTCT-3'
ERF3 (NM_001051054.1, BGIOSGA004611-TA)	5'-GCCGACTCTGGACTTGGATTT-3'	5'-CATCATACGGTATCCAGCCTCAG-3'
EREBP5 (NM_001063579.1, BGIOSGA022463-TA)	5'-CGGACTTTAGCCAGGAGAATGAT-3'	5'-AAATTCATGTACGGCTCCAGGT-3'
EREBP1 (NM_001054854.1, BGIOSGA005480-TA)	5'- ACCCATCTGCTAACTTCACTTCA -3'	5'- TTGGTATCATTCTCCAGCCAAA -3'
18S (AF069218.1)	5'- CTTAAAGGAATTGACGGAAGGGC-3'	5'- GACAAATCGCTCCACCAACTAAG-3'

Starch biosynthesizing enzymes

Genes

SUS1 (NM_001056854.1, BGIOSGA010570-TA)

SUS2 (NM_001063582.1, BGIOSGA021739-TA)

SUS3 (NM_001066813.1, BGIOSGA026140-TA)

SUS4 (NM_001056599.1, BGIOSGA010770-TA)

SUS5 (NM_001058844.2, BGIOSGA015483-TA)

SSI (NM_001187685.1, BGIOSGA021860-TA)

SSII (NM_001063751.1, BGIOSGA022586-TA)

SSIII (NM_001060468.1, BGIOSGA014316-TA)

SSIV (NM_001062677.1, BGIOSGA020250-TA)

GBSSI (NM_001063239.1, BGIOSGA022241-TA)

GBSSII (NM_001065985.1, BGIOSGA024424-TA)

APL1 (NM_001057719.1, BGIOSGA009855-TA)

APL2 (NM_001050189.1, BGIOSGA004052-TA)

APL3 (NM_001062959.1, BGIOSGA017490-TA)

APL4 (NM_001065811.1, BGIOSGA024540-TA)

APS1 (NM_001069343.1, BGIOSGA030039-TA)

APS2 (NM_001068138.1, BGIOSGA027135-TA)

18S (AF069218.1)

Forward primer

5'- GGAACAAGCCAATCATCTTCTCC -3'

5'- TATTGTTGATGGGGTGTCTGGTC -3'

5'- GCTAACTGTGATTGAGGCCATG -3'

5'- TCAAGAATGGGGATTGGAGAAGG -3'

5'- AACATAACTGGGCTTGTGGAGT -3'

5'- CTGCCAGTACATATCCTGACCTG -3'

5'- CTAGATCTTCCCCTATTCTGCG -3'

5'- ACACATACAAAGCAGGGGATAGG -3'

5'- GCAAATCTGGGCTTCAACTCAG -3'

5'- CTCAAGAGCATGGAGGAGAAGTAT -3'

5'- AACTGGAATTGTCAATGGCATGG -3'

5'- ATCTGGAAAGAGGAGAACTGCTG -3'

5'- TCACCTCACCTCGATACTTACCT -3'

5'- CTCAATTTTGCCATAGACGACCC -3'

5'- GCCCAAGGATGAAAGCTTGAAAT -3'

5'- CGCAATTTATACGCAACCTCGAT -3'

5'- ACACCATTAGTAGTTGGACTCC -3'

5'- CTTAAAGGAATTGACGGAAGGGC-3'

Reverse primer

5'- TCCTCCTTGTCTTAGATGGGTT -3'

5'- CCTCCCTGTGAAATATTGTCCCA -3'

5'- TCGTCTGGTAAGGATCAATGTGG -3'

5'- CTCCCAAGAACGTCTCAAGAGT -3'

5'- ATCTCCTCTCGATCCTTGGACT -3'

5'- CAGTCACAATTCGATCTGCTGTC -3'

5'- GATCACGTTTCATGACATTCTCCC -3'

5'- TTCAGCAATAGAGAGCCCATCAC -3'

5'- CCTGTCTTCCCTATCAAGTTGCT -3'

5'- CGTTCGTATCTCATCCCCTG -3'

5'- GCTCTTCAAGACGACCAACAAAA -3'

5'- TGATCGGATGTAGAAGCCTTCAG -3'

5'- ATGGTATCCTTGAGTTCACACCC -3'

5'- AGCGAAGACATATGCCTGTACAT -3'

5'- GACCCAAAATCATTGCTGTAGG -3'

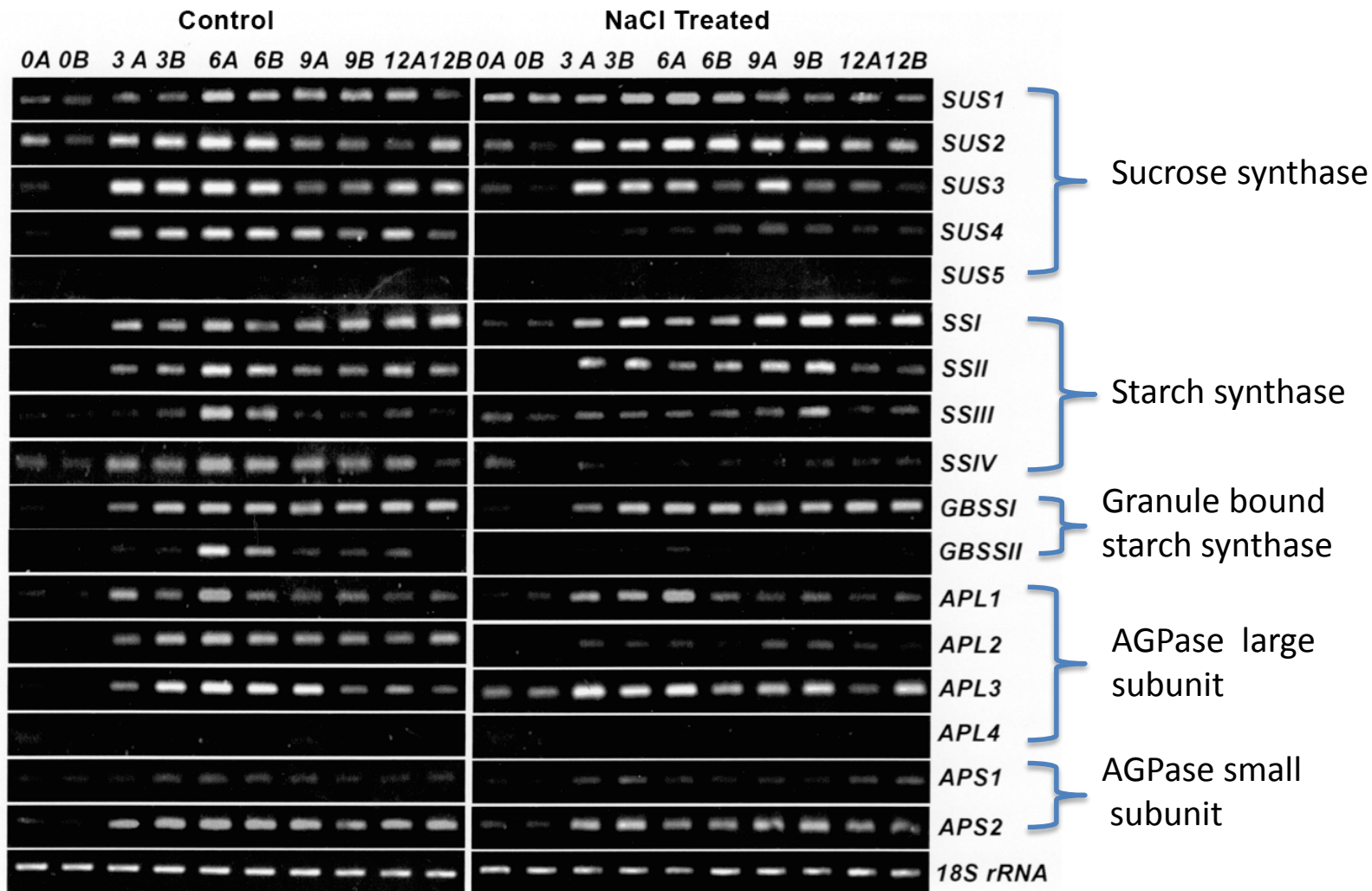
5'- CGTCTCATAATAGTCTGCACCCA -3'

5'- GATGATTGCCCTTCTAATGTGGC -3'

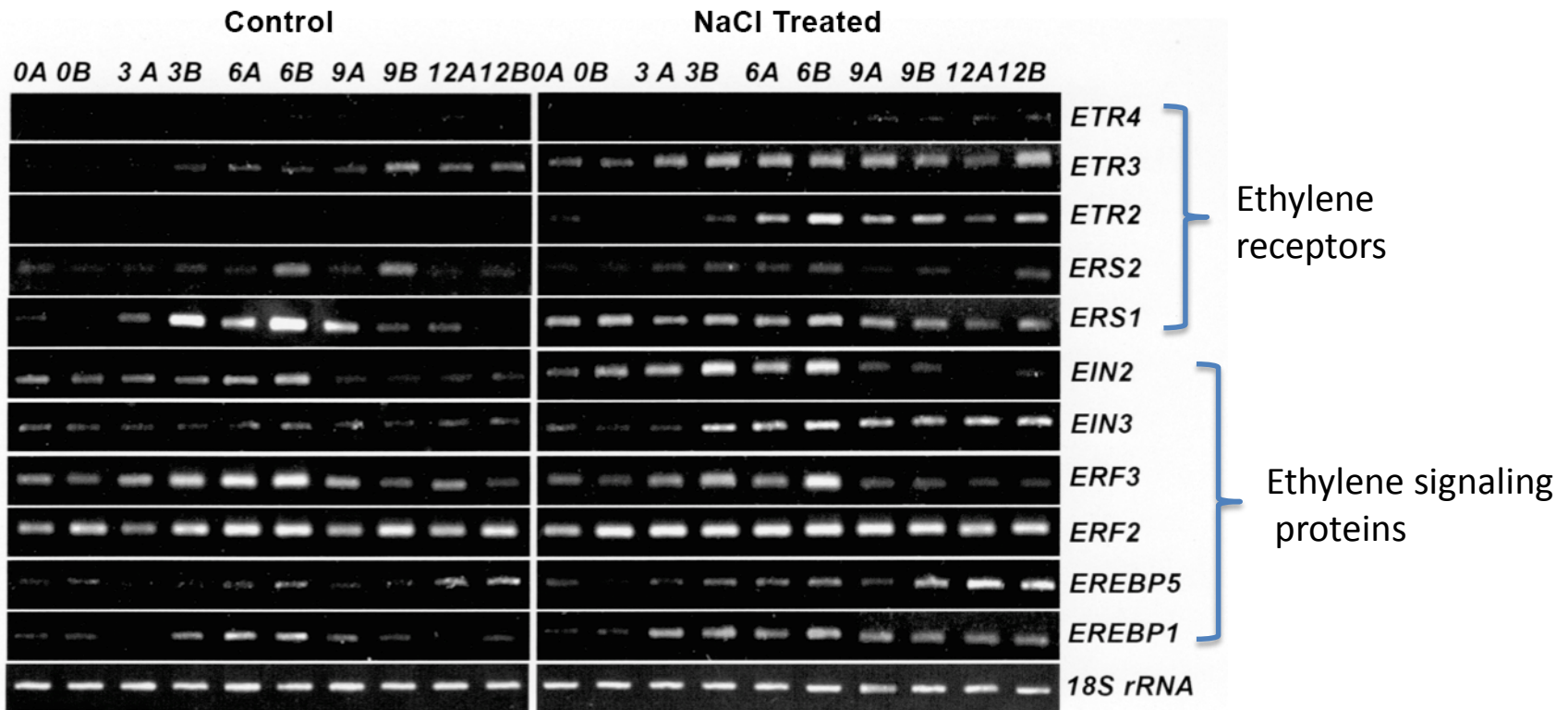
5'- GACAAATCGCTCCACCAACTAAG-3'

Cell cycle primers

Genes	Forward primer	Reverse primer
CycA1 (NM_001049047.1, BGIOSGA002064-TA)	5'- TCTGGCAATGAGATCAATCGTCA -3'	5'- AGGACAGAAGCTTCCATTTCCAA -3'
CycB2 (NM_001065167.1, BGIOSGA020504-TA)	5'- TTGCCAATGATGTCTGAGATGGA -3'	5'- TTAGGAGAGACACAGCTCAAACC -3'
CycD2 (NM_001066839.1, BGIOSGA023896-TA)	5'- CCTTCAGGTTTTTGATGCGGAAT -3'	5'- GCTTCCCTTCATTGAACTTGTCC -3'
CDKA1 (NM_001055307.1, BGIOSGA011725-TA)	5'- GCGGTTGCTTACTGTCATTCTC -3'	5'- GATCTCTGGAGCTCTATACCACA -3'
CDKA2 (NM_001052266.1, BGIOSGA007417-TA)	5'- TGGTCCCAACACTTGATTCTTCA -3'	5'- CACTTCCAGGTCCTTGAAGTACT -3'
CDKB2 (NM_001068755.1, BGIOSGA028992-TA)	5'- CACTAACCAACCTCTTTTCGCTG -3'	5'- GACCATGGACAAGATCAGACACT -3'
18S (AF069218.1)	5'- CTTAAAGGAATTGACGGAAGGGC-3'	5'- GACAAATCGCTCCACCAACTAAG-3'



RT-PCR of RNA isolated from the apical (A) and basal (B) spikelets of panicles of the control and NaCl treated (0.75 %) rice showing amplification of genes of various starch synthesizing enzymes. The results are for 0, 3, 6, 9 and 12 days after anthesis (DAA)



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