

Supplementary Materials Information

Supplementary Materials Table S1. The sequences of *IpASR* cDNA, protein and genomic DNA (the red sequence indicated the CDS and the purple sequence indicated the intron).

cDNA sequence:

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AACATATTTTAGCTTAGCATTTCATATTTTCGTCCACTACCAGAAACCATCCCAAAA  
AACTAAAATAATCATGTCTGAGATGAAACACCACCACCACCTTTGGTCACCACAA  
AGACAATGAGGAAGAGAGGCAGTCTTCCTGTGGTGAAAACACTTATGGCACTGA  
TGAGAAACCTTATGGCCAAACAGGCTATGGGGAAGAGTCTTATGAGAGGAAAA  
ACACCTATGGTGATGACTCTTATGAGAGGAAAAACACCTATGGAGATGACTCTT  
CTTGTGAGAGGAAAAACACCTATGGAGATGACTCTTCTTATGAGAGGAAAAACA  
CTTATGGAGATGACTCTTATTATGAGAGGAAAAACACTTATGGAGATGACTCTTA  
CGGCCAAATCGACAAGTATGGGAGTGAAGGCGTGACCGGCGGCATAGAACCGG  
AAGGGAAAACATGAGGATTACGAAAAGGAGAAAAAACACCACAAGCATCTC  
GAGCAGCTCGGCGGGCTTGGCACCGTCGCCGCCGGTGCCTATGCCTTGTACGAG  
AAGCACGAGGCAAAGAAAGACCCAGAGAATGCGCACAAGCATAAGATAGCAG  
AAGAGGTGGCGGCAGTGGCTGCCGTTGGATCAGGTGCATTTGCATTCCATGAGC  
ATCATGAGAAGAAGGAAGCTAAGGAGGAAGAAGAAGAGGCTGAGGGAAAGAA  
GAAGCATCACTTCTTTAATTACATACTATATATGTGTTTTTATTATTAAGATCAA  
ACTAAATAATCCGATCCTTAGCTTGTACGACGTGTGTGAATAATGGGTTTGGGCT  
TATGCGTGTTGAGGTACGAGGAGGGTTTCTTTGTACCTAGCTAAGCTACCTATCT  
ACTCTATTTGTGTCGACTGAGATGTTTTATTATTCTCTAGTGTATGTGGATTGTAAT  
AATACTAATACTGATATAAAGTTTATTAATAAAAAAAAAAAAAAAAAA
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Amino acid sequence:

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MSEMKHHHHFHGHKDNEEERQSSCGENTYGTDEKPYGQTGYGEESYERKNTYGDDS  
YERKNTYGDDSSCERKNTYGDDSSYERKNTYGDDSYERKNTYGDDSYGQIDKYGSE  
GVTGGIEPEGKTHEDYEKEKKHHKHLEQLGGLGTVAAGAYALYEKHEAKKDPENA  
HKHKIAEEVAAVAAVGSGAFAFHEHHEKKEAKEEEEEAEKKKHHFF
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Genomic DNA sequence:

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ATGTCTGAGATGAAACACCACCACCACCTTTGGTCACCACAAAGACAATGAGGA  
AGAGAGGCAGTCTTCCTGTGGTGAAAACACTTATGACACTGATGAGAAACCTTA  
TGGCCAAACAGGCTATGGGGAAGAGTCTTATGAGAGGAAAAACACCTATGGTG  
ATGACTCTTATGAGAGGAAAAACACCTATGGAGATGACTCTTCTTGTGAGAGGA  
AAAACACCTATGGAGATGACTCTTCTTATGAGAGGAAAAACACTTATGGAGATG  
ACTCTTATTATGAGAGGAAAAACACTTATGGAGATGACTCTTACGGCCAAATCG  
ACAAGTATGGGAGTGAAGGCGTGACCGGCGGCATAGAACCGGAAGGGAAAAC  
CATGAGGATTACGAAAAGGAGAAAAAACACCACAAGCATCTCGAGCAGCTCGG  
CGGGCTTGGCACCGTCGCCGCCGGTGCCTATGCCTTGGTAATTTATTTTTATTTGA  
CTTATGTAGTGATGAGTATGATAGCCTAATTGAAAAATCTTGGTGCAATATTAGA
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ATTTAACATGGTATCATAACTTATTTAAATTCTAACATATCTGATACTACATCATA
TGCATGTATGTATGATTTTGTAGTAATGGTTTTGGTTATTGGATGGGATGGATGG
ATGCAGTACGAGAAGCACGAGGCAAAGAAAGACCCAGAGAATGCGACAAGC
ATAAGATAGCAGAAGAGGTGGCGGCAGTGGCTGCCGTTGGATCAGGTGCATTTG
CATTCCATGAGCATCATGAGAAGAAGGAAGCTAAGGAGGAAGAAGAAGAGGCT
GAGGGAAAGAAGAAGCATCACTTCTTTAA

Supplementary Materials Table S2. Primer sequences used in this study.

Primer ID	Sequence (from 5' to 3')	Feature
IpASRPEF	GGGGCCCCTGGGATCCATGTCTGA GATGAAACACCA	gene primer pair for construction of IpASR-pGEX 6p-1, <i>Bam</i> HI site was underlined
IpASRPER	GGAATTCCGGGGATCCTTAAAG AAGTGATGCTTCT	
IpASRGF	CTTGCTCCGTGGATCCATGTCTGA GATGAAACACCAC	gene primer pair for construction of IpASR-pUC/GFP, <i>Bam</i> HI site was underlined
IpASRGR	TGCTCACCATGGATCCAAAGAAG TGATGCTTCTTC	
IpASRRTF	AAGATAGCAGAAGAGGTGGCG	gene primer pair for qRT-PCR of <i>IpASR</i>
IpASRRTR	ACGCATAAGCCCAAACCCAT	gene primer pair for qRT-PCR of reference gene <i>IpUBQ</i>
IpUBQRTF	TCGACAATGTGAAGGCAAAG	
IpUBQRTTR	CTTGATCTTCTTCGGCTTGG	primer pair for cloning the full-length CDS of <i>IpASR</i> and construction of pGBKT7- <i>IpASR</i> FL, <i>Eco</i> RI site was underlined
IpASRF1	CATGGAGGCCGAATTCATGTCTGA GATGAAACACCAC	
IpASRR1	GGATCCCCGGGAATTCAAAGAAG TGATGCTTCTTCTT	cloning the N-terminal of CDS for the construction of pGBKT7- <i>IpASR</i> N127 with IpASRF1, <i>Eco</i> RI site was underlined
IpASRR2	GGATCCCCGGGAATTCGGTGCCA AGCCCGCCGAGCTG	
IpASRR3	GGATCCCCGGGAATTCCAACGGC AGCCACTGCCGCCA	cloning the C-terminal of CDS for the construction of pGBKT7- <i>IpASR</i> N184 with IpASRF1, <i>Eco</i> RI site was underlined
IpASRF2	CATGGAGGCCGAATTCGATTACG AAAAGGAGAAAAAA	cloning the N-terminal of CDS for the construction of pGBKT7- <i>IpASR</i> C88 with IpASRR1, <i>Eco</i> RI site was underlined
IpASROXF	GGACTCTAGAGGATCCATGTCTGA GATGAAACACCA	for cloning the full-length CDS of <i>IpASR</i> and construction of IpASR-pBlm, <i>Bam</i> HI site was underlined
IpASROXR	GTCGACCCGGGGATCCTTAAAG AAGTGATGCTTC	
ASRF	GCCAAACAGGCTATGGGGAA	gene primer pair for qRT-PCR of <i>IpASR</i> in transgenic <i>Arabidopsis</i> , or genomic DNA detection in <i>Arabidopsis</i>
ASRR	TTGCCTCGTGCTTCTCGTA	
AtAct2F	GGTAACATTGTGCTCAGTGGTGG	gene primer pair for qRT-PCR of reference gene <i>AtActin2</i>
AtAct2R	AACGACCTTAATCTTCATGCTGC	

CAT1RTF	CGCCATGCCGAAAAATACCC	(At3g18780) in <i>Arabidopsis</i>
CAT1RTR	CTTGCCTGTCTGAATCCCAGGAC	gene primer pair for qRT-PCR of
FSD1RTF	GCTCGGCTCTTTCCCATTCG	<i>CAT1</i> (At1g20630) in <i>Arabidopsis</i>
FSD2RTR	CAGCTTCCCAAGACACAAGATTG G	gene primer pair for qRT-PCR of
CSD1RTF	TGATGGAAGTCCACCTTCACA	<i>FSD2</i> (At4g25100) in <i>Arabidopsis</i>
CSD1RTR	ATGGCCTCCCTTTCCGAGGT	gene primer pair for qRT-PCR of
APX2RTF	GGAAGCTCCGTGGTCTTATT	<i>CSD1</i> (At1g08830) in <i>Arabidopsis</i>
APX2RTR	CTCCTGTCTTCGTCTTCACATC	gene primer pair for qRT-PCR of
		<i>APX2</i> (AT3G09640) in <i>Arabidopsis</i>

Supplementary Materials Figure S1. Oxidative stress analyses of transgenic overexpression lines and WT plants. Phenotypes of 3-week-old *IpASR OXs* and WT plants were treated with 20 and 50 μM MV for 14 d.

