

Table S1. Primers used for qRT-PCR in this study.

Gene	Forward primer	Reverse primer
<i>CIGPX1</i>	TCAACGTTGCTTCCAAATGGT	TGGAGCAGAATTGTTCCCAT
<i>CIGPX2</i>	GACTTCACCGTCAAGGATGC	CTCCAAATTGGTTGCACGGA
<i>CIGPX3</i>	CCATGGCGGCTAACTTGATT	TAGCCGCTCTAGCAGAAACA
<i>CIGPX4</i>	GGGTGCTTCTCAATCAGTCC	TAAAGTTCCGTCAGCTGGGT
<i>CIGPX5</i>	GCACAAGAGCCAGGAAACAA	GCCATCGCCAAATAGTCCAC
<i>CIGPX6</i>	TGGCATTCCCATGCAATCAG	TGTCTGGACCATTCACTCGT
<i>ClActin</i>	CCATGTATGTTGCCATCCAG	GGATAGCATGGGGTAGAGCA

Table S2. GPX protein sequences used for phylogenetic tree analysis.

Name	Protein ID	Species
CIGPX1	Cla011456	<i>Citrullus lanatus</i>
CIGPX2	Cla011457	<i>Citrullus lanatus</i>
CIGPX3	Cla021039	<i>Citrullus lanatus</i>
CIGPX4	Cla006080	<i>Citrullus lanatus</i>
CIGPX5	Cla010856	<i>Citrullus lanatus</i>
CIGPX6	Cla014745	<i>Citrullus lanatus</i>
CsGPX1	Csa4M013040.1	<i>Cucumis sativus</i>
CsGPX2	Csa4M651840.1	<i>Cucumis sativus</i>
CsGPX3	Csa5M154190.1	<i>Cucumis sativus</i>
CsGPX4	Csa5M154200.1	<i>Cucumis sativus</i>
CsGPX5	Csa6M408810.1	<i>Cucumis sativus</i>
CsGPX6	Csa7M392410.1	<i>Cucumis sativus</i>
OsGPX1	LOC_Os04g46960.1	<i>Oryza sativa</i>
OsGPX2	LOC_Os03g24380.1	<i>Oryza sativa</i>
OsGPX3	LOC_Os02g44500.1	<i>Oryza sativa</i>
OsGPX4	LOC_Os06g08670.1	<i>Oryza sativa</i>

OsGPX5	LOC_Os11g18170.1	<i>Oryza sativa</i>
AtGPX1	At2g25080.1	<i>Arabidopsis thaliana</i>
AtGPX2	At2g31570.1	<i>Arabidopsis thaliana</i>
AtGPX3	At2g43350.1	<i>Arabidopsis thaliana</i>
AtGPX4	At2g48150.1	<i>Arabidopsis thaliana</i>
AtGPX5	At3g63080.1	<i>Arabidopsis thaliana</i>
AtGPX6	At4g11600.1	<i>Arabidopsis thaliana</i>
AtGPX7	At4g31870.1	<i>Arabidopsis thaliana</i>
AtGPX8	At1g63460.1	<i>Arabidopsis thaliana</i>
SbGPX1	Sobic.001G365800	<i>Sorghum bicolor</i>
SbGPX2	Sobic.001G378700	<i>Sorghum bicolor</i>
SbGPX3	Sobic.004G290100	<i>Sorghum bicolor</i>
SbGPX4	Sobic.005G110442	<i>Sorghum bicolor</i>
SbGPX5	Sobic.006G173900	<i>Sorghum bicolor</i>
SbGPX6	Sobic.006G272900	<i>Sorghum bicolor</i>
SbGPX7	Sobic.010G067100	<i>Sorghum bicolor</i>

Table S3. The predicted promoter *cis*-elements of *CIGPX* genes.

	Motif name	Annotation	<i>CIGPX1</i>	<i>CIGPX2</i>	<i>CIGPX3</i>	<i>CIGPX4</i>	<i>CIGPX5</i>	<i>CIGPX6</i>
Developmental processes	CAT-box	<i>cis</i> -acting regulatory element related to meristem expression			2		1	
	circadian	<i>cis</i> -acting regulatory element involved in circadian control	1	1		1		
	O2-site	<i>cis</i> -acting regulatory element involved in zein metabolism regulation					1	
	GCN4_motif	<i>cis</i> -regulatory element involved in endosperm expression	1		2		2	1
	as-2-box	<i>cis</i> -regulatory element involved in shoot-specific expression		1				2
	MBSII	MYB binding site involved in flavonoid biosynthetic genes regulation		2				
	Skn-1_motif	<i>cis</i> -acting regulatory element required for endosperm expression	3	1	3		1	2
Abiotic stress	HSE	<i>cis</i> -acting element involved in heat stress responsiveness		3	2	2	3	
	MBS	MYB binding site involved in drought-inducibility			1	1		3
	TC-rich repeats	<i>cis</i> -acting element involved in defense and stress responsiveness	1	2	3		1	1
	AT-rich sequence	element for maximal elicitor-mediated activation (2 copies)	1		1			
	W-box	WRKY binding site involved in abiotic stress and defense response				1		1
	LTR	<i>cis</i> -acting element involved in low-temperature responsiveness						1
	ELI-box3	elicitor-responsive element		1				
	WUN-motif	wound-responsive element			1			
	ARE	<i>cis</i> -acting regulatory element essential for the anaerobic induction	1	3				2

Hormone	CGTCA-motif	<i>cis</i> -acting regulatory element involved in MeJA-responsiveness	1					1
	AuxRR-core	<i>cis</i> -acting regulatory element involved in auxin responsiveness	1					
	ABRE	<i>cis</i> -acting element involved in abscisic acid responsiveness		3	1		1	1
	ERE	ethylene-responsive element				1		4
	GARE-motif	gibberellin-responsive element	2		1	1	2	1
	P-box	gibberellin-responsive element	1	2				
Other <i>cis</i>-elements	TCA-element	<i>cis</i> -acting element involved in salicylic acid responsiveness		1		3	1	
	AAGAA-motif	<i>cis</i> -acting regulatory element	1	2		4	2	1
	TATCCAT/C-motif	<i>cis</i> -acting regulatory element			1			
	CTAG-motif	<i>cis</i> -acting regulatory element	1					
	AC-I	<i>cis</i> -acting regulatory element		1			1	
	ATGCAAAT motif	<i>cis</i> -acting regulatory element associated to the TGAGTCA motif		1		2	2	
	AT-rich element	binding site of AT-rich DNA binding protein (ATBP-1)		1				1