

## Supplementary Information

**Table S1.** Enzyme capacities (units  $\text{g}^{-1}$  FW) of superoxide dismutase (SOD), catalase (CAT), guaiacol peroxidase (GPX) and syringaldazine peroxidase (SPX) of *Arabidopsis thaliana* roots and SOD and ascorbate peroxidase (APX) capacities of *Arabidopsis thaliana* leaves exposed to different U concentrations for 3 days at pH 7.5. Values represent the mean  $\pm$  S.E. of at least 4 biological replicates. Data points with different letters are significantly different ( $p < 0.05$ ).

Organ	Enzyme	0 $\mu\text{M}$ U	6.25 $\mu\text{M}$ U	12.5 $\mu\text{M}$ U	25 $\mu\text{M}$ U	50 $\mu\text{M}$ U	75 $\mu\text{M}$ U	100 $\mu\text{M}$ U
ROOTS	SOD	124 $\pm$ 14 <sup>A</sup>	130 $\pm$ 19 <sup>A</sup>	135 $\pm$ 25 <sup>A</sup>	123 $\pm$ 23 <sup>A</sup>	99 $\pm$ 12 <sup>A</sup>	154 $\pm$ 26 <sup>A</sup>	128 $\pm$ 21 <sup>A</sup>
	CAT ( $\times 10^{-3}$ )	45 $\pm$ 8 <sup>A</sup>	66 $\pm$ 10 <sup>A</sup>	57 $\pm$ 11 <sup>A</sup>	81 $\pm$ 9 <sup>A</sup>	54 $\pm$ 8 <sup>A</sup>	77 $\pm$ 12 <sup>A</sup>	60 $\pm$ 4 <sup>A</sup>
	GPX	8.9 $\pm$ 0.9 <sup>A</sup>	12.58 $\pm$ 1.3 <sup>A</sup>	12.7 $\pm$ 1.6 <sup>A</sup>	14.7 $\pm$ 1.2 <sup>A</sup>	13.1 $\pm$ 1.5 <sup>A</sup>	15.9 $\pm$ 1.7 <sup>A</sup>	17.0 $\pm$ 3.2 <sup>A</sup>
	SPX	0.57 $\pm$ 0.21 <sup>A</sup>	1.33 $\pm$ 0.38 <sup>A</sup>	0.78 $\pm$ 0.19 <sup>A</sup>	1.81 $\pm$ 0.36 <sup>A</sup>	1.07 $\pm$ 0.15 <sup>A</sup>	1.24 $\pm$ 0.44 <sup>A</sup>	1.12 $\pm$ 0.47 <sup>A</sup>
LEAVES	SOD	134 $\pm$ 7 <sup>a</sup>	159 $\pm$ 12 <sup>a</sup>	154 $\pm$ 25 <sup>a</sup>	159 $\pm$ 12 <sup>a</sup>	153 $\pm$ 17 <sup>a</sup>	171 $\pm$ 23 <sup>a</sup>	169 $\pm$ 12 <sup>a</sup>
	APX	11.4 $\pm$ 1.6 <sup>a</sup>	15.3 $\pm$ 2.8 <sup>a</sup>	16.7 $\pm$ 3.1 <sup>a</sup>	13.8 $\pm$ 2.3 <sup>a</sup>	10.5 $\pm$ 1.4 <sup>a</sup>	16.8 $\pm$ 2.1 <sup>a</sup>	14.2 $\pm$ 3.2 <sup>a</sup>

**Table S2.** Element concentrations ( $\text{mg g}^{-1}$  DW) in roots and leaves of *Arabidopsis thaliana* seedlings after exposure to different uranium concentrations for 3 days. Results represent mean  $\pm$  S.E. of at least 3 biological replicates. Data points with different letters are significantly different ( $p < 0.05$ ). N/A: metal content in plants exposed to  $0 \mu\text{M U}$  was not determined. n.d.: not detectable. \*: value based on one measurement.

Organ	Element	0 $\mu\text{M U}$	6.25 $\mu\text{M U}$	12.5 $\mu\text{M U}$	25 $\mu\text{M U}$	50 $\mu\text{M U}$	75 $\mu\text{M U}$	100 $\mu\text{M U}$
ROOTS	Fe	N/A	495.83 $\pm$ 41.80 <sup>AB</sup>	441.59 $\pm$ 74.31 <sup>A</sup>	516.85 $\pm$ 48.47 <sup>AB</sup>	685.25 $\pm$ 43.26 <sup>B</sup>	418.44 $\pm$ 14.57 <sup>AB</sup>	409.41 $\pm$ 20.63 <sup>AB</sup>
	Cu	N/A	n.d.	n.d.	19.21 $\pm$ 0.82 <sup>A</sup>	29.87 $\pm$ 1.89 <sup>B</sup>	40.47 $\pm$ 1.12 <sup>C</sup>	41.62 $\pm$ 0.74 <sup>C</sup>
LEAVES	Fe	N/A	49.58 $\pm$ 1.68 <sup>a</sup>	48.40 $\pm$ 2.39 <sup>a</sup>	48.17 $\pm$ 1.64 <sup>a</sup>	45.60 $\pm$ 0.73 <sup>ab</sup>	41.32 $\pm$ 1.22 <sup>b</sup>	41.63 $\pm$ 1.48 <sup>b</sup>
	Cu	N/A	6.50 $\pm$ 0.41 <sup>a</sup>	6.95 $\pm$ 0.72 <sup>a</sup>	6.85 $\pm$ 0.18 <sup>a</sup>	5.71 <sup>a*</sup>	n.d.	n.d.

**Table S3.** Sequences of forward and reverse primers used in gene expression analysis.

Locus	Gene	Forward Primer	Reverse Primer
<b>Reference Genes</b>			
<i>At2g28390</i>	<i>SAND family protein</i>	AACTCTATGCAGCATTTGATCCACT	TGATTGCATATCTTTATCGCCATC
<i>At4g26410</i>	<i>expressed</i>	GAGCTGAAGTGGCTTCCATGAC	GGTCCGACATAACCCATGATCC
<i>At4g34270</i>	<i>TIP41-like</i>	GTGAAAACCTGTTGGAGAGAAGCAA	TCAACTGGATACCCCTTCGCA
<i>At5g08290</i>	<i>Mitosis protein YSL8</i>	TTACTGTTTCGGTTGTTCTCCATTT	CACTGAATCATGTTTGAAGCAAGT
<i>At5g15710</i>	<i>F-box protein</i>	TTTCGGCTGAGAGTTTCGAGT	GATTCCAAGACGTAAAGCAGATCAA
<i>At5g25760</i>	<i>UBC</i>	CTGCGACTCAGGAATCTTCTAA	TTGTGCCATTGAATTGAACCC
<i>At5g55840</i>	<i>PPR gene</i>	AAGACAGTGAAGGTGCAACCTTACT	AGTTTTTGAGTTGTATTTGTGTCAGAGAAAG
<i>At4g05320</i>	<i>UBQ10</i>	GGCCTTGATAATCCCTGATGAATAAG	AAAGAGATAACAGGAACGAAACATAGT
<b>Other Genes</b>			
<i>At1g07890</i>	<i>APX1</i>	TGCCACAAGGATAGGTCTGG	CCTTCCTTCTCTCCGCTCAA
<i>At1g20630</i>	<i>CAT1</i>	AAGTGCTTCATCGGGAAGGA	CTCAACAAAACGCTTACGA
<i>At4g35090</i>	<i>CAT2</i>	AACTCCTCCATGACCGTTGGA	TCCGTTCCCTGTCGAAATTG
<i>At1g20620</i>	<i>CAT3</i>	TCTCCAACAACATCTCTCCCTCA	GTGAAATTAGCAACCTTCTCGATCA
<i>At1g08830</i>	<i>CSD1</i>	TCCATGCAGACCCTGATGAC	CCTGGAGACCAATGATGCC
<i>At2g28190</i>	<i>CSD2</i>	GAGCCTTTGTGGTTCACGAG	CACACCACATGCCAATCTCC
<i>At5g18100</i>	<i>CSD3</i>	GTTGTTGTGCATGCGGATCC	CACATCCAACCTCTCGAGCCTG
<i>At4g25100</i>	<i>FSD1</i>	CTCCAATGCTGTGAATCCC	TGGTCTTCGGTTCTGGAAGTC
<i>At5g51100</i>	<i>FSD2</i>	TTGGAAAGGTTCAAGTCGGCT	CATTTGCAACGTCAAGTCTATTTCG
<i>At5g23310</i>	<i>FSD3</i>	AACGGGAATCCTTTACCCGA	TGTCTCCACCACCAGGTTGC
<i>At3g24170</i>	<i>GR1</i>	CTCAAGTGTGGAGCAACCAAAG	ATGCGTCTGGTCACACTGC
<i>At3g54660</i>	<i>GR2</i>	GCCCAGATGGATGGAACAGAT	TAGGGTTGGAGAATGTTGGCG
<i>At4g23100</i>	<i>GSH1</i>	CCCTGGTGAAGTGCCTTCA	CATCAGCACCTCTCATCTCCA
<i>At5g2738</i>	<i>GSH2</i>	GGACTCGTCGTTGGTGACAA	TCTGGGAATGCAGTTGGTAGC
<i>At1g55020</i>	<i>LOX1</i>	TTGGCTAAGGCTTTTGTCTGG	GTGGCAATCACAAACGGTTC
<i>At3g10920</i>	<i>MSD1</i>	ATGTTTGGGAGCACGCCTAC	AACCTCGCTTGCATATTTCCA
<i>At5g44070</i>	<i>PCS1</i>	TGGTGTGAATGCTCTTTCTATCG	GGTTCGCAGCAATCCAACAT
<i>At5g14545</i>	<i>pri-miRNA398b</i>	AGTAATCAACGGCTGTAATGACGCTAC	TGACCTGAGAACACATGAAAACGAGAG
<i>At5g14565</i>	<i>pri-miRNA398c</i>	TCGAAACTCAAAGTGAACAGTCC	ATTTGGTAAATGAATAGAAGCCACGGGCCACG
<i>At5g51060</i>	<i>RBOHC</i>	TCACCAGAGACTGGCACAATAAA	GATGCTCGACCTGAATGCTC
<i>At5g47910</i>	<i>RBOHD</i>	TATGCATCGGAGAGGCTGCT	TAGAGACAACACGTTCCCGGG
<i>At1g64060</i>	<i>RBOHF</i>	GGTGTATGAAACGAAAGTTGCA	AATGAGAGCAGAACGAGCATCA