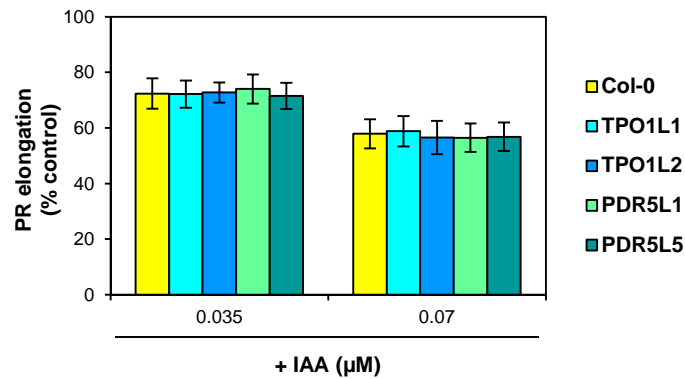


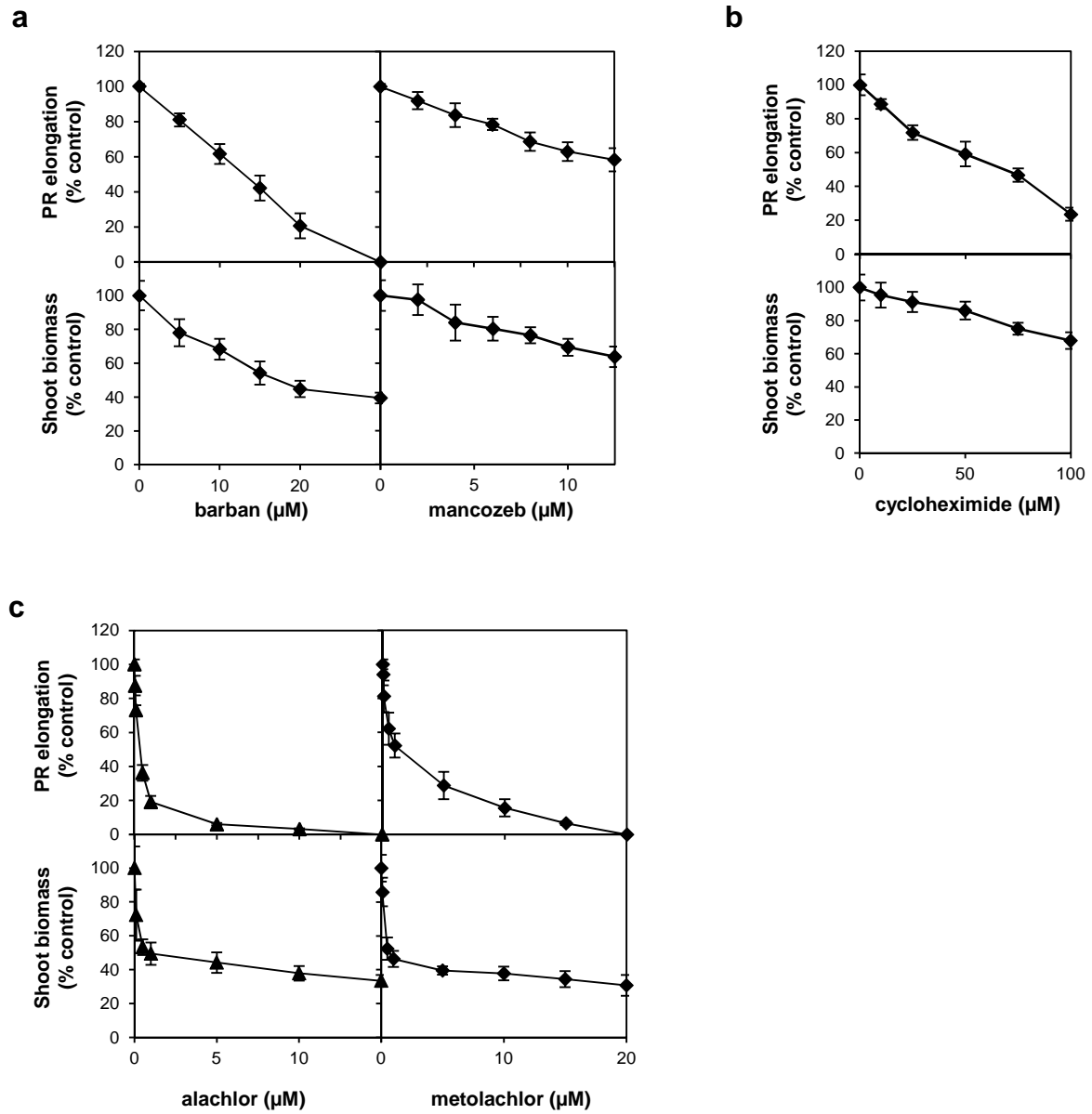
## Supplementary Information

Heterologous expression of the yeast Tpo1p or Pdr5p membrane transporters in Arabidopsis confers plant xenobiotic tolerance

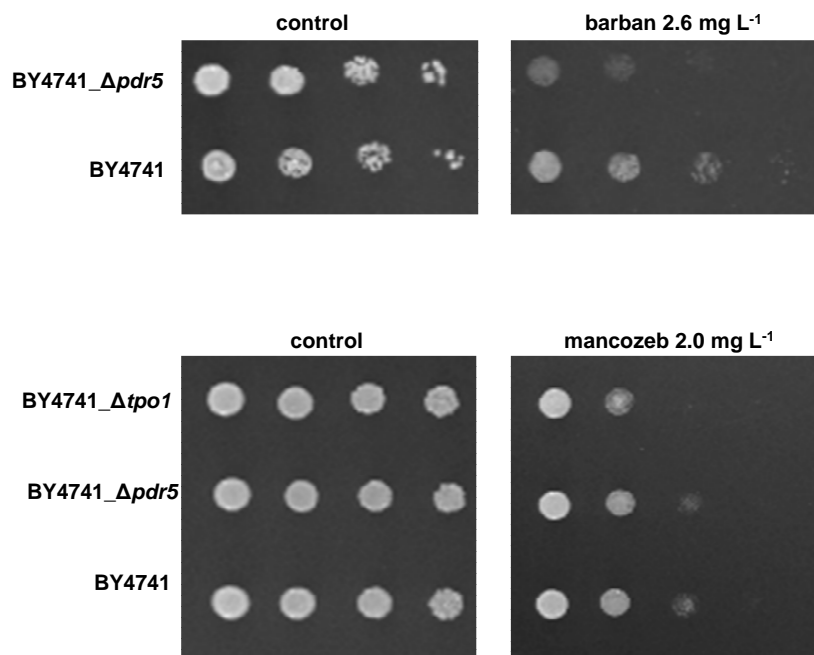
Remy E, Niño-González M, Godinho CP, Cabrito TR, Teixeira MC, Sá-Correia I & Duque P



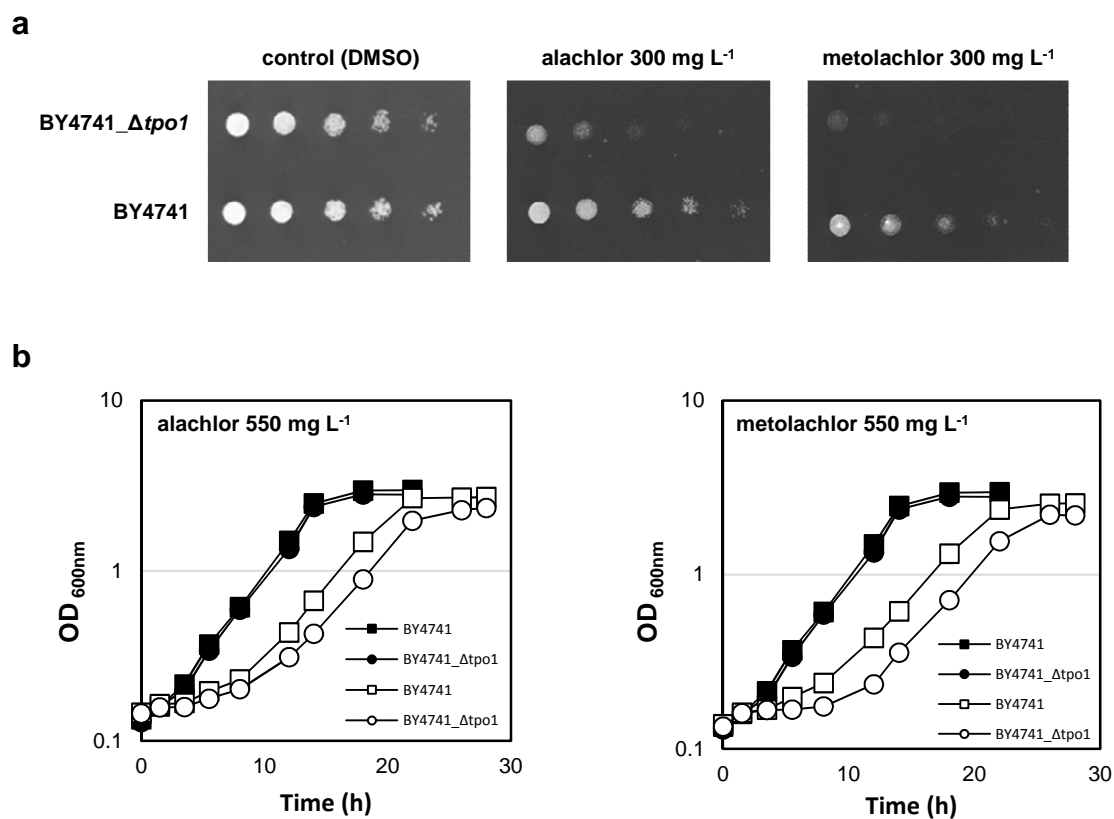
**Supplementary Figure S1. Effect of auxin (IAA) on transgenic Arabidopsis lines expressing the yeast Tpo1p or Pdr5p transporters.** Effect of the exogenous application of indole-acetic acid (IAA) on PR elongation of seedlings of the wild type (Col-0) and TPO1 (TPO1L1, L2) or PDR5 (PDR5L1, L5) transgenic lines. Values represent means  $\pm$  SD ( $n = 8$ ), with similar results being obtained in three independent experiments performed with different seed batches. No statistically significant differences were detected between *ScTPO1*- or *ScPDR5*-expressing lines and the wild type ( $P > 0.5$ ; Student's *t*-test).



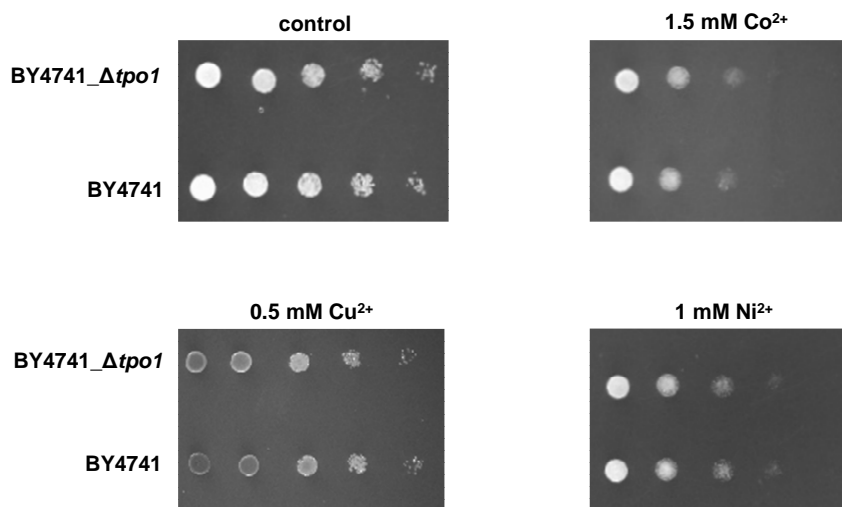
**Supplementary Figure S2. Effect of different agricultural pesticides on the growth of wild-type *Arabidopsis* seedlings.** Effect of exogenous application of (a) the herbicide barban and the fungicide mancozeb, (b) the fungicide cycloheximide and (c) the herbicides alachlor and metolachlor on PR elongation and shoot biomass of seedlings of wild-type (Col-0) plants. Values represent means  $\pm$  SD ( $n = 8$ ), with similar results being obtained in three independent experiments performed with different seed batches.



**Supplementary Figure S3. Effect of loss of Pdr5p function on susceptibility of yeast cells to a barban or mancozeb challenge.** Susceptibility of wild-type and  $\Delta pdr5$  yeast cells treated with 2.6 mg L<sup>-1</sup> barban, and of wild-type,  $\Delta pdr5$  and  $\Delta tpo1$  yeast cells treated with 2.0 mg L<sup>-1</sup> mancozeb, analysed through spotting dilution series of cell suspensions (four 1:5 serial dilutions). Similar results were obtained in three independent experiments.



**Supplementary Figure S4. Effect of loss of Tpo1p function on susceptibility of yeast cells to an alachlor or metolachlor challenge.** (a) Susceptibility of wild-type and mutant  $\Delta tpo1$  yeast cells treated with 300 mg L<sup>-1</sup> alachlor or 300 mg L<sup>-1</sup> metolachlor, analysed through spotting dilution series of cell suspensions (four 1:5 serial dilutions). (b) Comparison of the growth curves of nonadapted wild-type or  $\Delta tpo1$  yeast cells in liquid medium unsupplemented or supplemented with 550 mg L<sup>-1</sup> alachlor or 550 mg L<sup>-1</sup> metolachlor. Similar results were obtained in three independent experiments.



**Supplementary Figure S5. Effect of loss of Tpo1p function on susceptibility of yeast cells to toxic concentrations of cations.** Susceptibility of wild-type and mutant  $\Delta tpo1$  yeast cells treated with 1.5 mM Co<sup>2+</sup>, 0.5 mM Cu<sup>2+</sup> or 1 mM Ni<sup>2+</sup>, analysed through spotting dilution series of cell suspensions (four 1:5 serial dilutions). Similar results were obtained in three independent experiments.

**Supplementary Table S1. Sequences of the primers used.**

<b>PRIMER NAME</b>	<b>SEQUENCE (5' to 3')</b>
<b>Cloning <i>Pro35S:ScTPO1</i> construct</b>	
ScTPO1F	TT <u><i>CTCGAG</i></u> ATGTCGGATCATTCTCCCATTCTA
ScTPO1R	TT <u><i>ACTAGT</i></u> TTAAGCGGCGTAAGCATACTTGA
<b>Cloning <i>Pro35S:ScPDR5</i> construct</b>	
ScPDR5F	TT <u><i>CTCGAG</i></u> ATGCCCGAGGCCAAGCTTAACAA
ScPDR5R	TT <u><i>ACTAGT</i></u> TTATTTCTTGGAGAGTTTACCGTTC
<b>Expression analyses</b>	
<u><i>RT-PCR</i></u>	
TPO1F <sup>a</sup>	CTGGTTTTATCTGCGTTTGG
PDR5F <sup>b</sup>	GGGGTGCTTTATTTTGGT
UBQ10F	GATCTTTGCCGAAAACAATTGG
UBQ10R	TAGAAAGAAAGAGATAACAGG
<u><i>Real-time RT-PCR</i></u>	
TPO1qF	TGCCATCGTATTGTTCTTT
TPO1qR	CCCCAGTTATTACTTTGCTT
PDR5qF	GGCAAATCATGGTCAAGCAA
PDR5qR	GCCCAAGTCGCCAAAGTAG
UBQ10qF	GACAATCACCCCTCGAGGTGG
UBQ10qR	CATCCTCTAGCTGCTTGCCG
<b>Subcellular localization studies</b>	
ScTPO1PaclR <sup>c</sup>	<u><i>TTAATTA</i></u> AAGCGGCGTAAGCATACTTGA
ScPDR5AvrIIIR <sup>d</sup>	TT <u><i>CCTAGG</i></u> TTCTTGGAGAGTTTACCGTTC

Restriction sites are shown in italics and underlined.

<sup>a</sup> used with ScTPO1R

<sup>b</sup> used with ScPDR5R

<sup>c</sup> used with ScTPO1F

<sup>d</sup> used with ScPDR5F