

## Supplemental data

### Reactive Oxygen Species coordinate the transcriptional responses to iron availability in Arabidopsis

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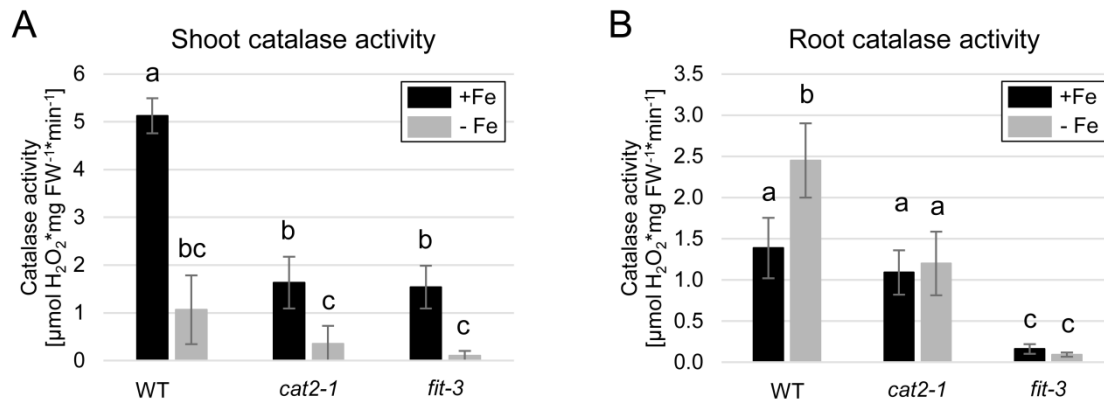
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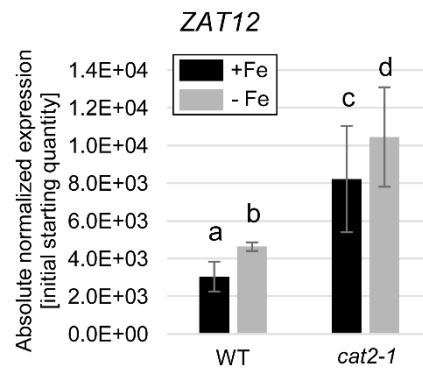
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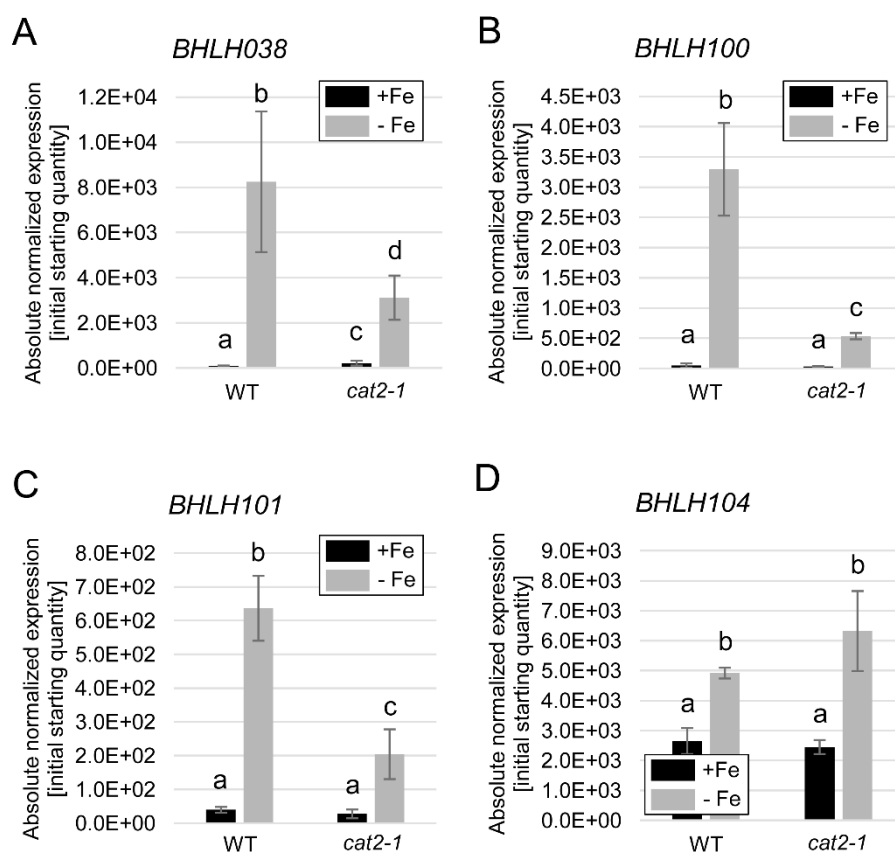
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**Supplemental Fig. 1.** Catalase activity in *fit-3* mutant plants. (A) Shoot catalase activity in wild type, *cat2-1* and *fit-3* plants. (B) Catalase activity in roots of wild type, *cat2-1* and *fit-3*. Plants were grown for 10 days under sufficient (+Fe) or deficient Fe supply (-Fe). Bars represent mean values of three independent experiments  $\pm$  SD. Different letters indicate statistically significant differences ( $P < 0.05$ ).



**Supplemental Fig. 2.** Regulation of the *ZAT12* gene in wild-type and *cat2-1* plants grown for 10 days under sufficient (+Fe) or deficient (-Fe) Fe supply ( $n = 3$ ). Bars represent mean values,  $\pm$  SD. Different letters indicate statistically significant differences ( $P < 0.05$ ).



**Supplemental Fig. 3.** Regulation of Fe acquisition and homeostasis genes in response to increased  $H_2O_2$  caused by the absence of CAT2. (A-D) Gene expression of (A) *BHLH038*, (B) *BHLH100*, (C) *BHLH101* and (D) *BHLH104* in wild-type and *cat2-1* plants grown for 10 days under sufficient (+Fe) or deficient (-Fe) Fe supply (n = 3). Bars represent mean values,  $\pm$  SD. Different letters indicate statistically significant differences ( $P < 0.05$ ).

**Supplemental Table 1.** List of primers used for RT-qPCR.

Primer name	Primer sequence (5' to 3')	Origin
BHLH038 RT-F	AGCAGCAACCAAAGGCG	Wang <i>et al.</i> (2007)
BHLH038 RT-R	CCACTTGAAGATGCAAAGTGTAG	Wang <i>et al.</i> (2007)
BHLH039 RT-F	GACGGTTTCTCGAAGCTTG	Wang <i>et al.</i> (2007)
BHLH039 RT-R	GGTGGCTGCTTAACGTAACAT	Wang <i>et al.</i> (2007)
BHLH100 RT-F	AAGTCAGAGGAAGGGGTTACA	Wang <i>et al.</i> (2007)
BHLH100 RT-R	GATGCATAGAGTAAAAGAGTCGCT	Wang <i>et al.</i> (2007)
BHLH101 RT-F	CAGCTGAGAAACAAAGCAATG	Wang <i>et al.</i> (2007)
BHLH101 RT-R	CAGTCTCACTTTGCAATCTCC	Wang <i>et al.</i> (2007)
BHLH104 RT-F	GGTTGAGGAGGGAGAAGCTAAATG	This study
BHLH104 RT-R	ACGGATTGCATCATCGAGTATAGC	This study
CAT1 RT-F	AAGTGCTTCATCGGGAAGG	This study
CAT1 RT-R	CTCCGAAAGCGCTTCAAC	This study
CAT2 RT-F	TGCTGGAAACTACCCTGAATGG	This study
CAT2 RT-R	TCAACACCATACGTCCAACAGG	This study
CAT3 RT-F	CCACTTGATGTGACCAAGATCTG	This study
CAT3 RT-R	GTAGATTCCAGGAACCACAAGACC	This study
EFc RT-F	TATGGGATCAAGAACTCACAAT	Wang <i>et al.</i> (2007)
EFc RT-R	CTGGATGTACTCGTTGTTAGGC	Wang <i>et al.</i> (2007)
FIT RT-F	GGAGAAGGTGTTGCTCCATC	Wang <i>et al.</i> (2007)
FIT RT-R	TCCGGAGAAGGAGAGCTTAG	Wang <i>et al.</i> (2007)
FRO2 RT-F	CTTGGTCATCTCCGTGAGC	Wang <i>et al.</i> (2007)
FRO2 RT-R	AAGATGTTGGAGATGGACGG	Wang <i>et al.</i> (2007)
ILR3 RT-F	GCATGTAGAGAGAAGCAGCGAC	This study
ILR3 RT-R	TGCGGACAGCATCAACCAAG	This study
IRT1 RT-F	AAGCTTTGATCACGGTTGG	Wang <i>et al.</i> (2007)
IRT1 RT-R	TTAGGTCCCATGAACTCCG	Wang <i>et al.</i> (2007)
PYE RT-F	GTTCCAGGACTTCCCATTT	This study
PYE RT-R	GTGTCTGGGGATCAGGTTGT	This study
ZAT12 RT-F	GAGTCACAAGAAGCCTAACCAACGA	Le <i>et al.</i> (2016)
ZAT12 RT-R	AAGCCACTCTCTCCCACTGCTA	Le <i>et al.</i> (2016)

**Supplemental References**

**Le CT, Brumbarova T, Ivanov R, Stoof C, Weber E, Mohrbacher J, Fink-Straube C, Bauer P.** 2016. ZINC FINGER OF ARABIDOPSIS THALIANA12 (ZAT12) Interacts with FER-LIKE IRON DEFICIENCY-INDUCED TRANSCRIPTION FACTOR (FIT) Linking Iron Deficiency and Oxidative Stress Responses. *Plant Physiol* **170**, 540-557.

**Wang HY, Klatte M, Jakoby M, Baumlein H, Weisshaar B, Bauer P.** 2007. Iron deficiency-mediated stress regulation of four subgroup Ib BHLH genes in *Arabidopsis thaliana*. *Planta* **226**, 897-908.