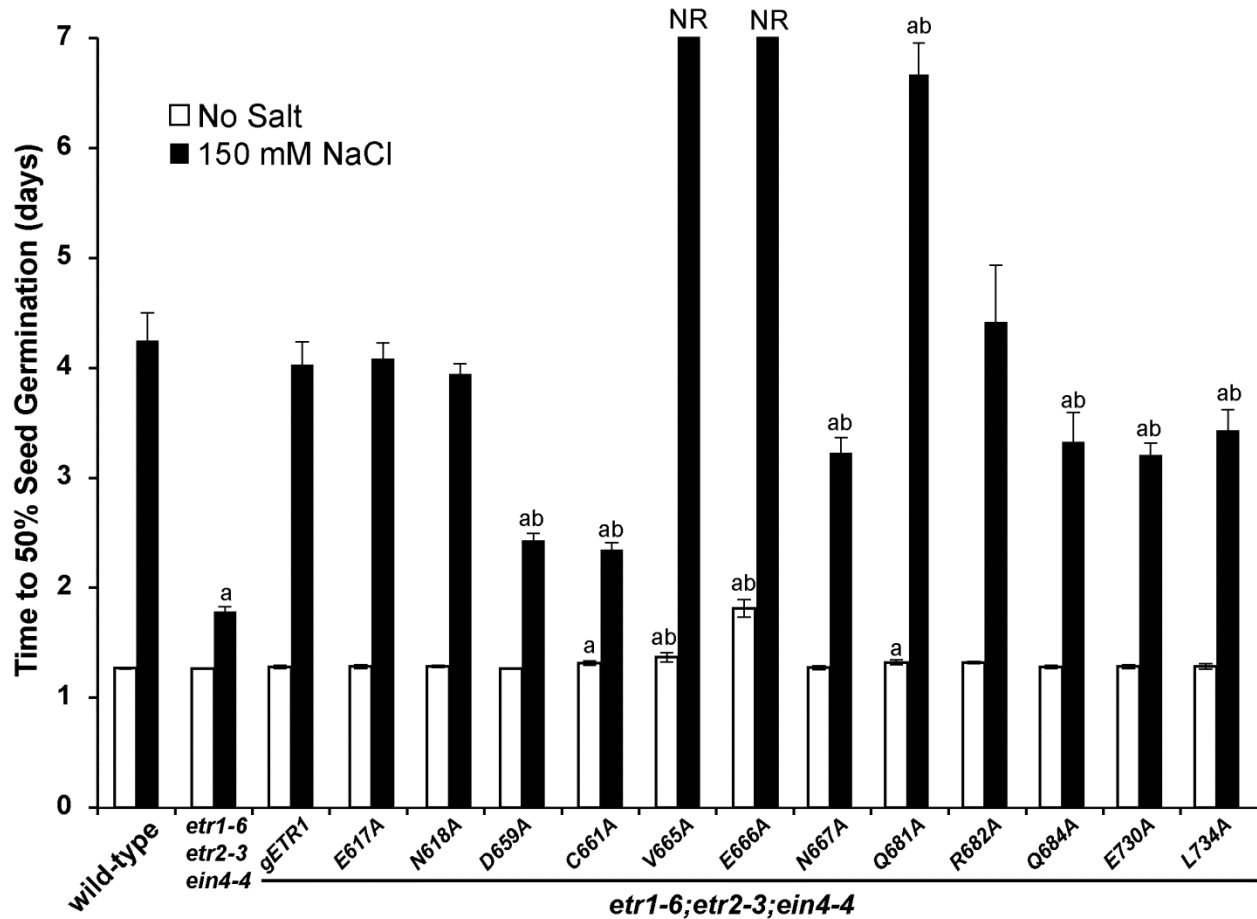
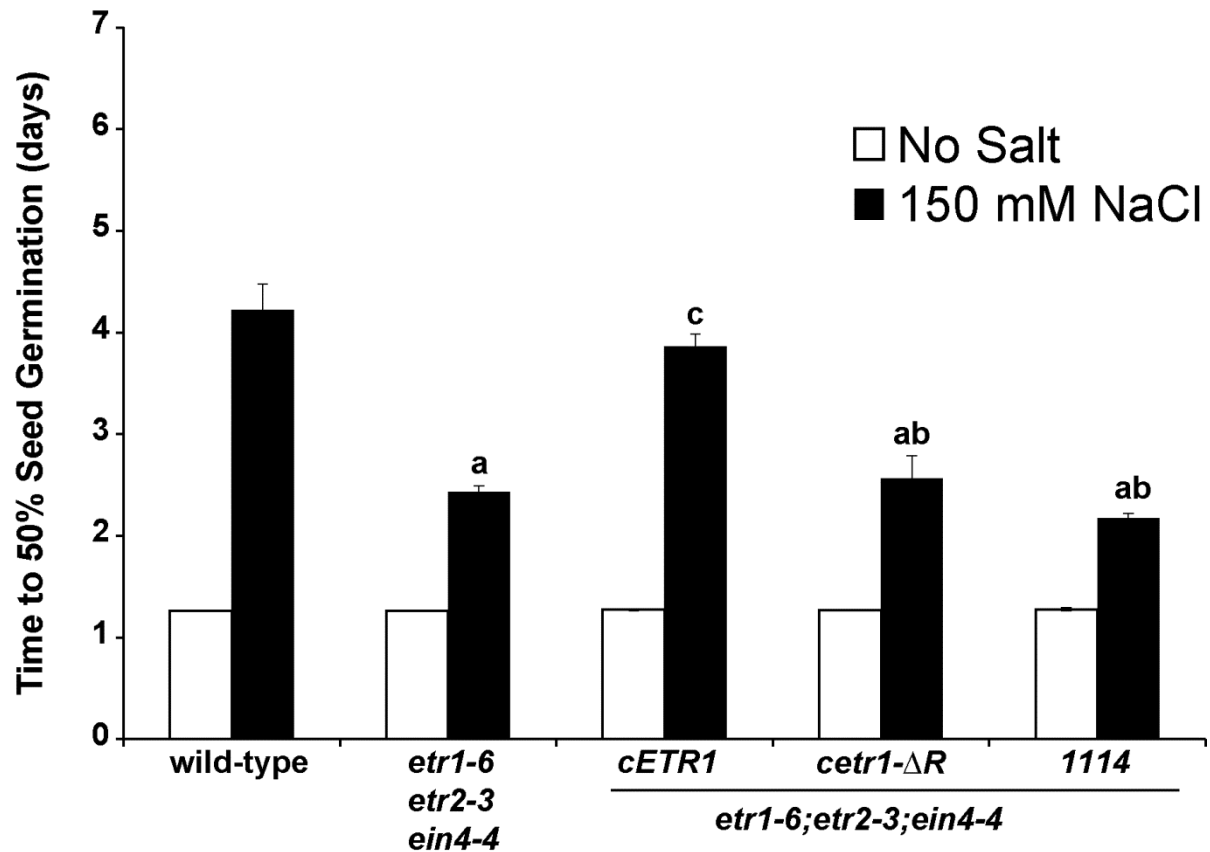


## Supplemental Information

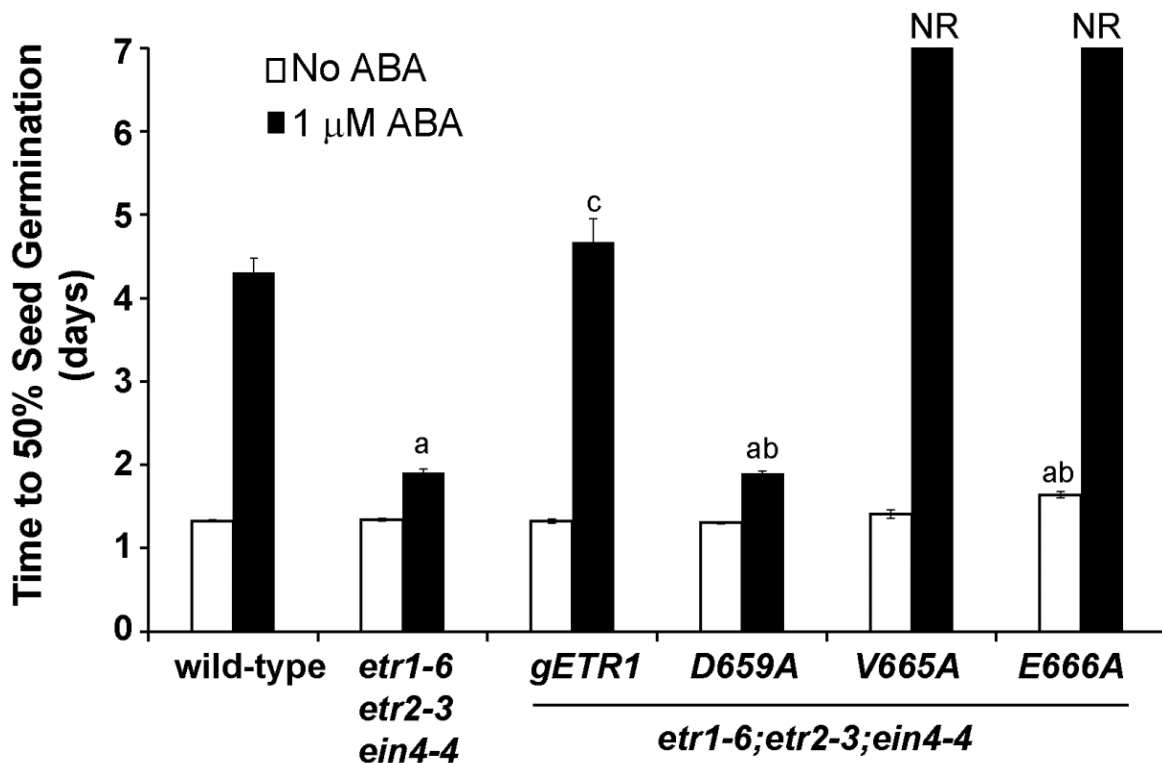


### Supplemental Figure S1: Time for 50% of point mutant seeds to germinate in response to NaCl.

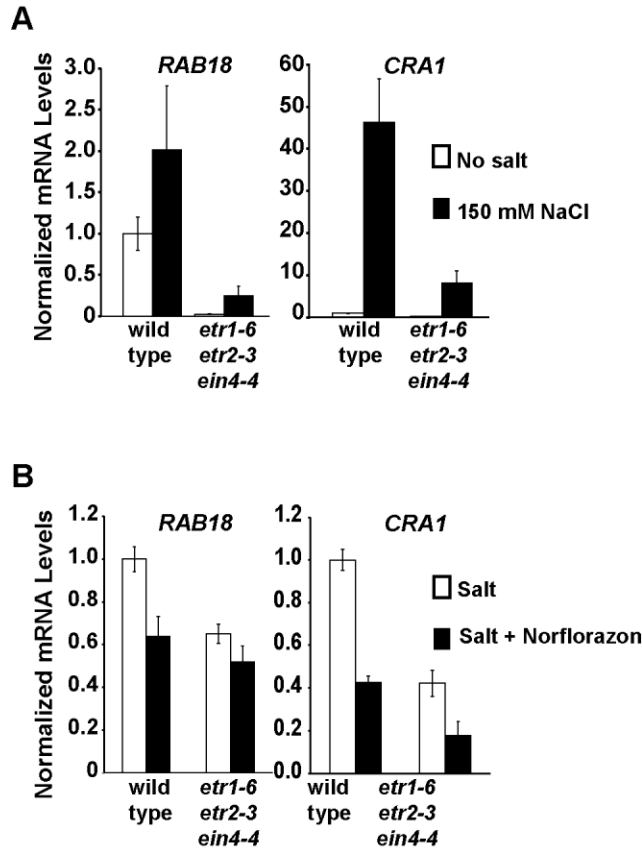
The time for 50% germination on 150 mM NaCl was calculated for each seed line from the data in figure 4. NR denotes that 50% germination was not reached in the time-frame of the experiment. <sup>a</sup>Statistically different from the wild-type seeds under the same conditions ( $P < 0.05$ ). <sup>b</sup>Mutant transgene different from *gETR1* under the same condition. Salt caused a significant increase ( $P < 0.05$ ) in the time for 50% seed germination for all seed lines. All transformants had statistically slower germination on salt ( $P < 0.05$ ) than the *etr1-6;etr2-3;ein4-4* triple mutant seeds. All  $P$  values were calculated using Student's  $t$  test.



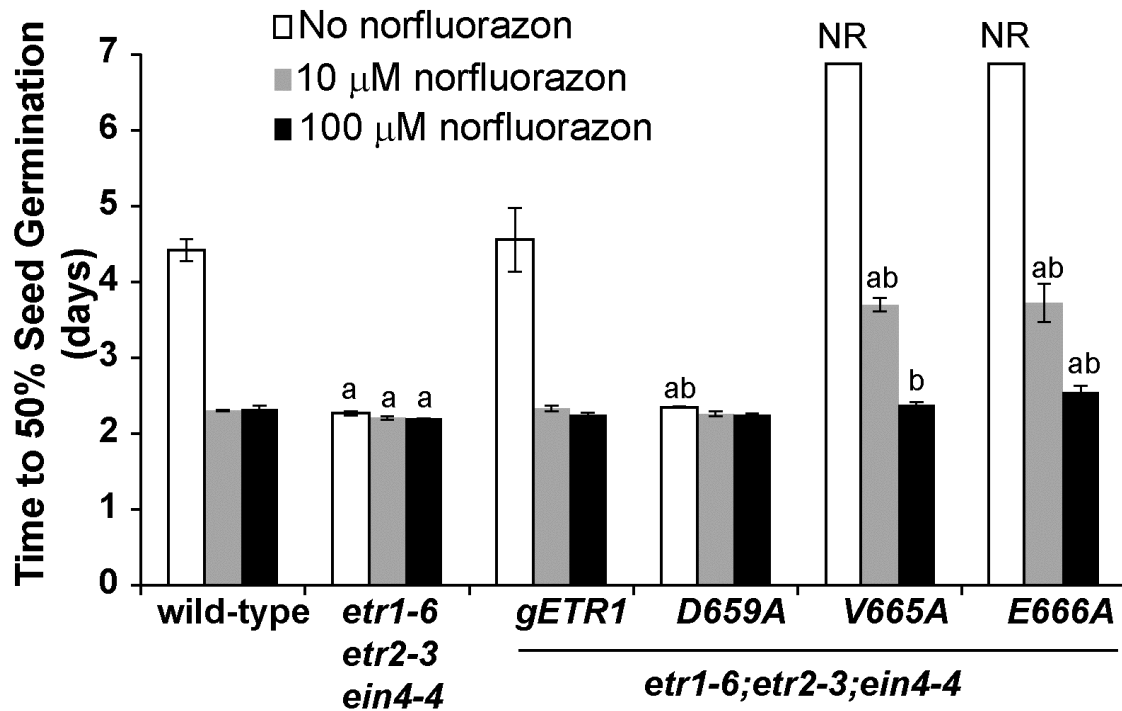
**Supplemental Figure S2. Time for 50% of chimeric receptor seeds to germinate in response to NaCl.** The time for 50% germination on 150 mM NaCl was calculated for each seed line from the data in figure 5. <sup>a</sup>Statistically different from the wild-type seeds under the same conditions ( $P < 0.05$ ). <sup>b</sup>Mutant transgene different from *cETR1* under the same condition. <sup>c</sup>Statistically slower germination from the triple mutant caused by the transgene ( $P < 0.05$ ). All  $P$  values were calculated using Student's  $t$  test.



**Supplemental Figure S3. Time for 50% of select point mutant seeds to germinate in response to ABA.** The time for 50% germination on 150 mM NaCl was calculated for each seed line from the data in figure 6. NR denotes that 50% germination was not reached in the time-frame of the experiment. <sup>a</sup>Statistically different from the wild-type seeds under the same conditions ( $P < 0.05$ ). <sup>b</sup>Mutant transgene different from *gETR1* under the same condition. ABA caused a significant increase ( $P < 0.05$ ) in the time for 50% seed germination for all seed lines. <sup>c</sup>Statistically slower germination from the triple mutant caused by the transgene ( $P < 0.05$ ). All  $P$  values were calculated using Student's  $t$  test.



**Supplemental Figure S4. Change in transcript abundance of *RAB18* and *CRA1* in response to NaCl and norflorazon.** The levels of transcript for *CRA1* and *RAB18* were measured using qRT-PCR. For this, seeds were germinated for 2d in the indicated conditions and mRNA extracted from wild-type and *etr1-6;etr2-3;ein4-4* triple mutants. Data were normalized to the levels of At3g12210 in each seed line to determine the relative transcript level for each gene. These were then normalized to levels of the transcript in untreated wild-type seeds. The average  $\pm$  SEM for two biological replicates with three technical replicates each is shown. All *P* values were calculated by *t* test. **A**) Seeds were germinated in the absence or presence of 150 mM NaCl and data normalized to wild-type seeds in the absence of salt. Salt caused a statistically significant ( $P < 0.05$ ) increase in transcript levels of both genes. The triple mutant had statistically significant ( $P < 0.05$ ) lower levels of each gene transcript compared to wild-type in both the presence and absence of salt. **B**) Seeds were germinated on 150 mM NaCl in absence or absence of 100  $\mu$ M norflurazon and data normalized to wild-type seeds in the absence of norflurazon. Norflorazon caused a significant decrease ( $P < 0.05$ ) in *CRA1* transcript levels in both wild-type and triple mutant seeds and in the *RAB18* transcript levels in wild-type seeds.



**Supplemental Figure S5. Time for 50% of select point mutant seeds to germinate on NaCl in response to norflurazon.** The time for 50% germination on 150 mM NaCl was calculated for each seed line from the data in figure 8. NR denotes that 50% germination was not reached in the time-frame of the experiment. <sup>a</sup>Statistically different from the wild-type seeds under the same conditions ( $P < 0.05$ ). <sup>b</sup>Mutant transgene different from *gETR1* under the same condition. The application of both 10  $\mu$ M and 100  $\mu$ M norflurazon caused a significant decrease ( $P < 0.05$ ) in the time for 50% seed germination for all seed lines. All  $P$  values were calculated using Student's  $t$  test.

**Supplemental Table S1. Primers used for site-directed mutagenesis**

<b>Primer Name</b>	<b>Primer Sequence 5' to 3'<sup>a</sup></b>
etr1-silent-F	CAGCCATTCCtaGgCAcagtAATTTCACTGGACTTAAGG
etr1-silent-R	CAGTGAAATTactgTGcCtaGGAATGGCTGGAACCTTTCG
E617A F	CATGGATGctAACGGGTTAGTATAAGC
E617A R	ACCCGTTtagCATCCATGACAAGAACCT
N618A F	ATGAGgctGGGTTAGTATAAGCTT
N618A R	AACCCagcCTCATCCATGACAA
C661A F	CATGGACGTGgctATGCCCGGGGTCGAAAAC
C661A R	CGGGCATagcCACGTCCATGAAGACCAC
V665A F	GCCCCGGGgctGAAAAC TACCAAATCGCTCT
V665A R	AGTTTTcagCCCCGGGCATGCACACGTCCATG
E666A F	CGGGGTCGctAACTACCAAATCGCTCTCCGTAT
E666A R	TGGTAGTTtagCGACCCCGGGCATGCACACG
N667A F	GTCGAAgctTACCAAATCGCTCTCCGTAT
N667A R	ATTTGGTAagcTTCGACCCCGGGCATGC
Q681A F	TCACAAAagctCGCCACCAACGGCCACTAC
Q681A R	TGGTGGCGagcTTTTGTGAATTTCTCGTGAAT
R682A F	CAAACAagctCACCAACGGCCACTAC
R682A R	CGTTGGTGagcTTGTTTTGTGAATTTCTCG
Q684A F	CGCCACCAagctCCACTACTTGTGGCA
Q684A R	GTAGTGGCCGagcGTGGCGTTGTTTTGTG
E730A F	TTCTCGctCCCCGGGTACTGT
E730A R	TACCCGGGGagCGAGAAGAT
L734A F	CCGGGTAgctTACGAGGGCATGTAAAG
L734A R	TGCCCTCGTAagcTACCCGGGGCTCGAGAA

<sup>a</sup> Lower case denotes sites of mutations being introduced.