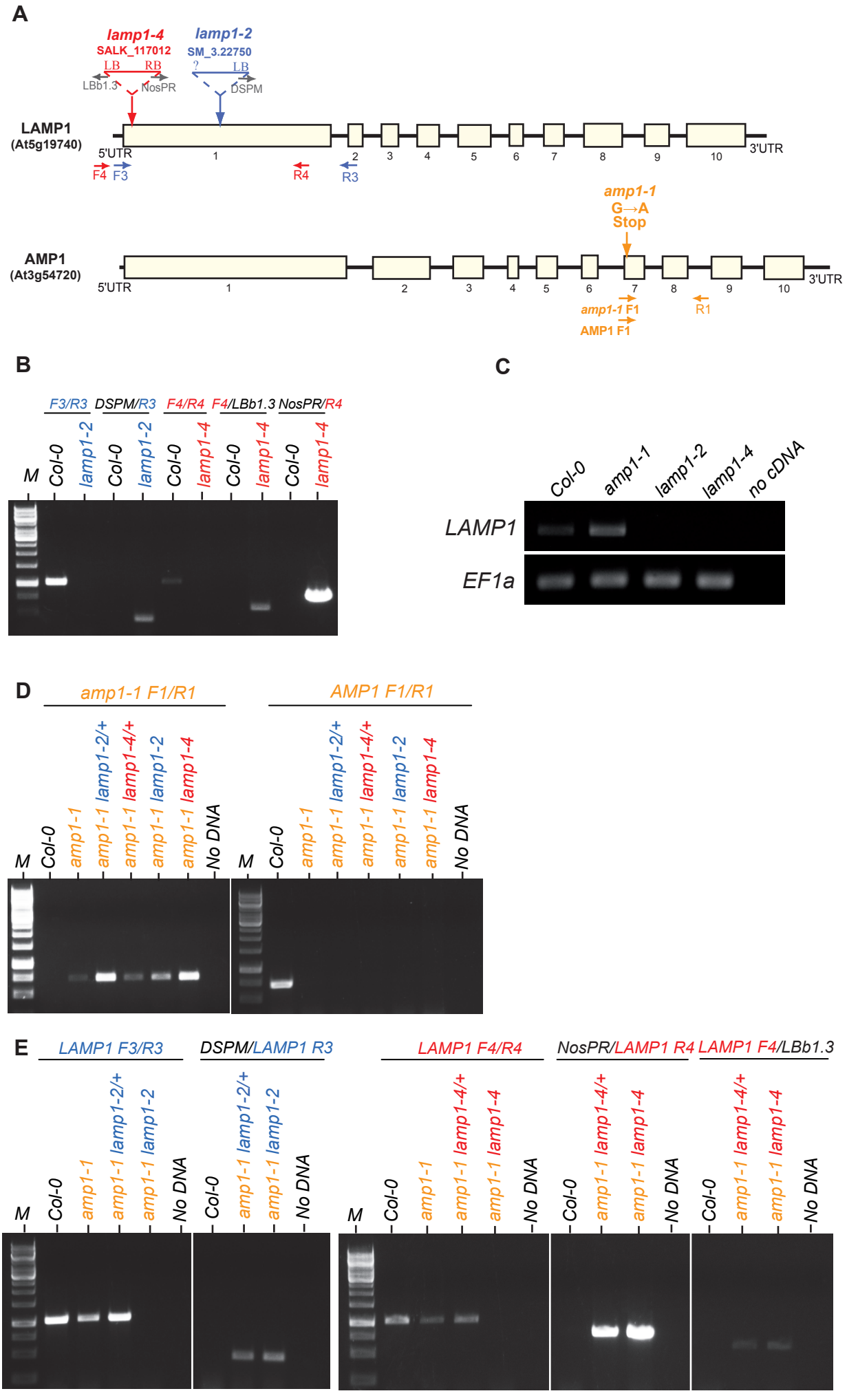
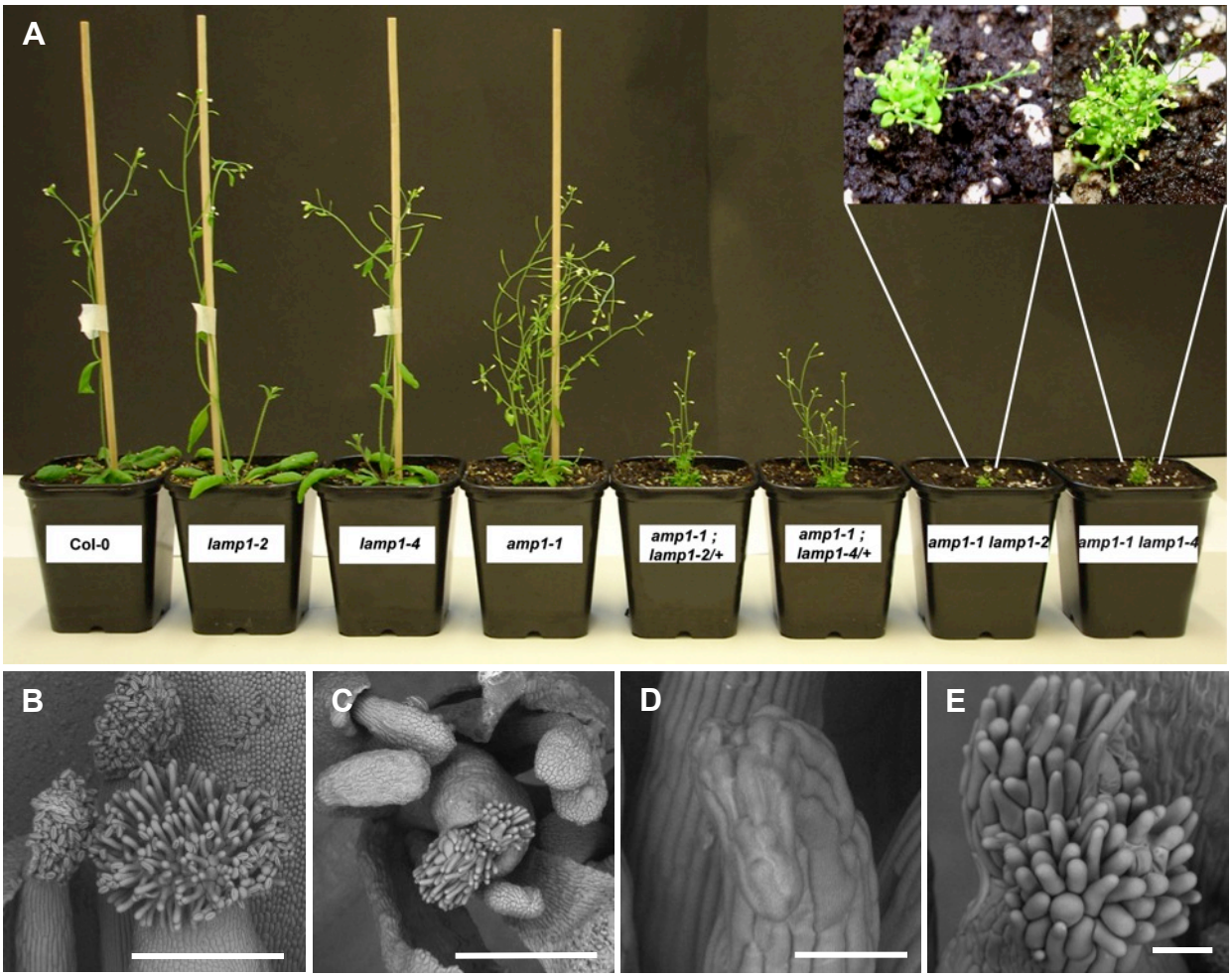

A
lamp1-4
SALK_117012
LB
RB
LBb1.3
NosPR
lamp1-2
SM_3.22750
?
LB
DSPM
LAMP1
(At5g19740)
5'UTR
1
2
3
4
5
6
7
8
9
10
3'UTR
F4
F3
R4
R3
amp1-1
G→A
Stop
AMP1
(At3g54720)
amp1-1 F1
AMP1 F1
R1
B
F3/R3
DSPM/R3
F4/R4
F4/LBb1.3
NosPR/R4
M
Col-0
lamp1-2
lamp1-4
C
Col-0
amp1-1
lamp1-2
lamp1-4
no cDNA
LAMP1
EF1a
D
amp1-1 F1/R1
AMP1 F1/R1
M
Col-0
amp1-1
amp1-1 lamp1-2/+
amp1-1 lamp1-4/+
amp1-1 lamp1-2
amp1-1 lamp1-4
No DNA
E
LAMP1 F3/R3
DSPM/LAMP1 R3
LAMP1 F4/R4
NosPR/LAMP1 R4
LAMP1 F4/LBb1.3
M
Col-0
amp1-1
amp1-1 lamp1-2/+
amp1-1 lamp1-2
amp1-1 lamp1-4/+
amp1-1 lamp1-4
No DNA

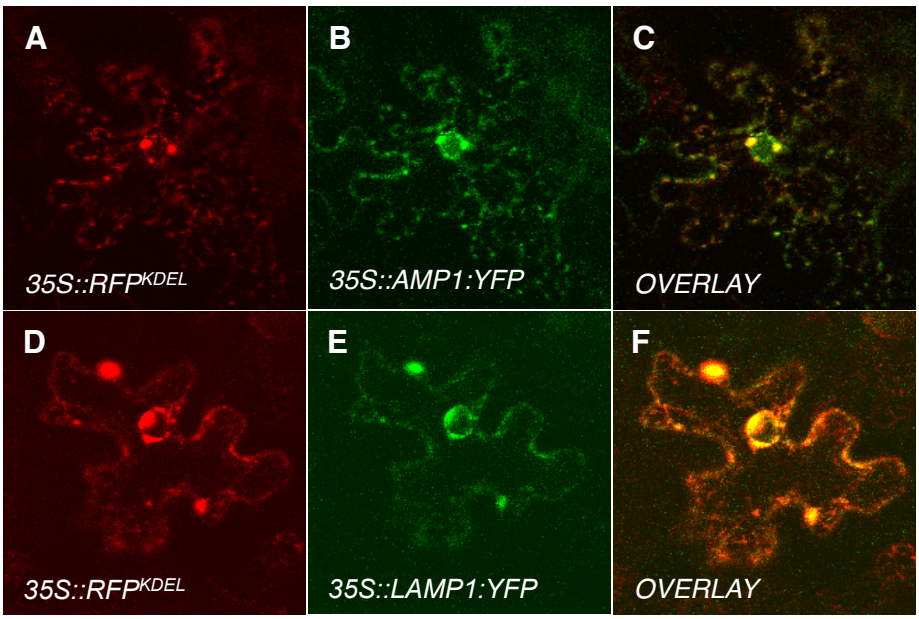
Figure S1

Supplemental Figure S1. Genotypic characterization of *lamp1* and *amp1 lamp1* alleles.

A, Positions of T-DNA insertions in *LAMP1* and localization of *amp1-1* point mutation in *AMP1*. Exons are drawn as yellow bars. Small arrows indicate positions of primers used in the genotyping experiments below. B, Verification of homozygous *lamp1-2* and *lamp1-4* lines by PCR genotyping. Used primer pairs are written on top of the panel. M, GeneRuler 1 kb DNA Ladder (Thermo Scientific). C, Detection of *LAMP1* transcripts in indicated genotypes by RT-PCR. In homozygous lines of *lamp1-2 and lamp1-4* no *LAMP1*-specific cDNA could be amplified, whereas in *amp1-1* it's levels appeared to be slightly increased. *EF1α* was used as normalization control. D, Verification of *amp1-1* homozygosity in analyzed *amp1 lamp1* double mutants by PCR-genotyping. Used primer pairs are written on top of the panel. The *amp1-1* F1 primer contains the mutated nucleotide A at the 3' position and thus amplifies only an *amp1-1* specific fragment (annealing temperature: 58°C), whereas the corresponding *AMP1* F1 primer consists of the wild-type sequence and is thus specific for the wild-type allele. E, Confirmation of presence of *lamp1* mutant alleles in analyzed *amp1-1 lamp1-2* and *amp1-1 lamp1-4* lines by PCR-genotyping. Used primer pairs are written on top of the panel.



Supplemental Figure S2. Adult phenotypes of *amp1 lamp1*. A, Adult phenotypes of 35-day-old *amp1 lamp1*, the respective single mutants and wild-type. In both allelic combinations *amp1 lamp1* $^{-/+}$ plants show an intermediate phenotype between *amp1-1* and *amp1 lamp1* $^{-/-}$ indicating that *LAMP1* might act in a dosage-dependent manner. Close up of *amp1-1 lamp1*$^{-/-}$ plants (insets). B to E, SEM analysis of flower phenotypes of *amp1-1 lamp1-2*$^{-/-}$. (B) Wild-type anthers and stigma. (C) *amp1-1 lamp1-2*$^{-/-}$ anthers and stigma. **(D)** Close up of a miss-developed filamentous *amp1-1 lamp1-2*$^{-/-}$ anther. (E) Close up of an *amp1-1 lamp1-2*$^{-/-}$ stigma. Size bars: (B and C),D 300 μm; (D and E) 50 μm.



Supplemental Figure S3. Subcellular localization of 35S::AMP1:YFP and 35S::LAMP1:YFP in *N. benthamiana* leaf epidermal cells.

A to C, 35S::AMP1:YFP (B) co-localizes with the ER-marker 35S::RFP^{KDEL} (A and C) attoto the endoplasmic reticulum and in the perinuclear environment. D to F, 35S::LAMP1:YFP (E) shows a very similar subcellular distribution as 35S::AMP1:YFP (B) and 35S::RFP^{KDEL} (D, F) indicating that it also resides to in the nuclear envelope periphery and the ERthe endoplasmic reticulum.

Table S1. List of primers used in this study.

Name	Sequence 5'-3'	Purpose
WUSisf	GCTCGTGAGCGTCAGAAG	in situ hybrid.
WUSisr	GAAGCGTACGTCGATGTTC	in situ hybrid.
CLV3isf	CACTCAGTCACTTTCTCTC	in situ hybrid.
CLV3isr	GGTCAAGGGAGCTGAAAGTTG	in situ hybrid.
IPT3rtf	TCCGTCCTAAACCGTGGAAAGC	RT-PCR
IPT3rtr	AGAGCCTCCACGTAAGAGTTGG	RT-PCR
GAPC2rtf	TTGGTGACAACAGGTCAAGCA	RT-PCR
GAPC2rtr	TTGGTGACAACAGGTCAAGCA	RT-PCR
AMR1:GUSF	GGGGTCGACAAACAGGCGGTAGCATTGAG	cloning
AMR1::GUSR	GCTGTCGACCATCAATGGGGCTTCTTCTT	cloning
AMP1cDNAF(EcoRV)	GGGGATATCATGTCACAACCTCTCACCACCAG	cloning
AMP1cDNAR-ST(EcoRV)	GGGGATATCTCTGAAACCTCCTTTAAGAGCTTTGC	cloning
AMR1cDNAF(EcoRV)	CCAGATATCGAAGAAGCCCCATTGATGTCG	cloning
AMR1cDNAR-ST(EcoRV)	GATATCTATCAGTTCACCTTTTAAAACAAGTGAAGC	cloning
AMP1pF(BamHI)	CCCGGATCCCCAGATCTAGAGGGCTCAAAGCC	cloning
AMP1pR(KpnI/XhoI)	GCCGGTACCCTCGAGTGCAGAGAGAGGAGAGAGTAAATTG	cloning
AMP1RT-F	GGAATTCTCTTGGCTGATGAGC	RT-PCR
AMP1RT-R	GTGAAACCTCCTTTAAGAGCTTTGC	RT-PCR
LAMP1RT-F	ACATGTTGGTGTTCCAGGAGT	RT-PCR
LAMP1RT-R	GACTCTCCAAATCTGGTGTTGA	RT-PCR
EF1αF1	CTGCTAACTTCACCTCCCAG	RT-PCR
EF1αR	TGGTGGGTACTCAGAGAAGG	RT-PCR
AMP1F1	TATCAGTGGCTGGAATTTGG	PCR-genotyping
amp1-1F1	TATCAGTGGCTGGAATTTGA	PCR-genotyping
AMP1R	GCTCTCTGAATCGCTCTTGC	PCR-genotyping
LAMP1 F3	AGCAAACAACCAACTCCATTG	PCR-genotyping
LAMP1 F4	AGTCGTTGGATCACCTAACCC	PCR-genotyping
LAMP1 R3	TAACAGTTTCCCCCTGAAACC	PCR-genotyping
LAMP1 R4	TGGTAAAAGCTGACAAATTAATGTTC	PCR-genotyping
DSPM	TACGAATAAGAGCGTCCATTTTAGAGTGA	PCR-genotyping
LBb1.3	ATTTTGCCGATTTCGGAAC	PCR-genotyping
NosPr	ACGTTGCGGTTCTGTCAGTTCC	PCR-genotyping