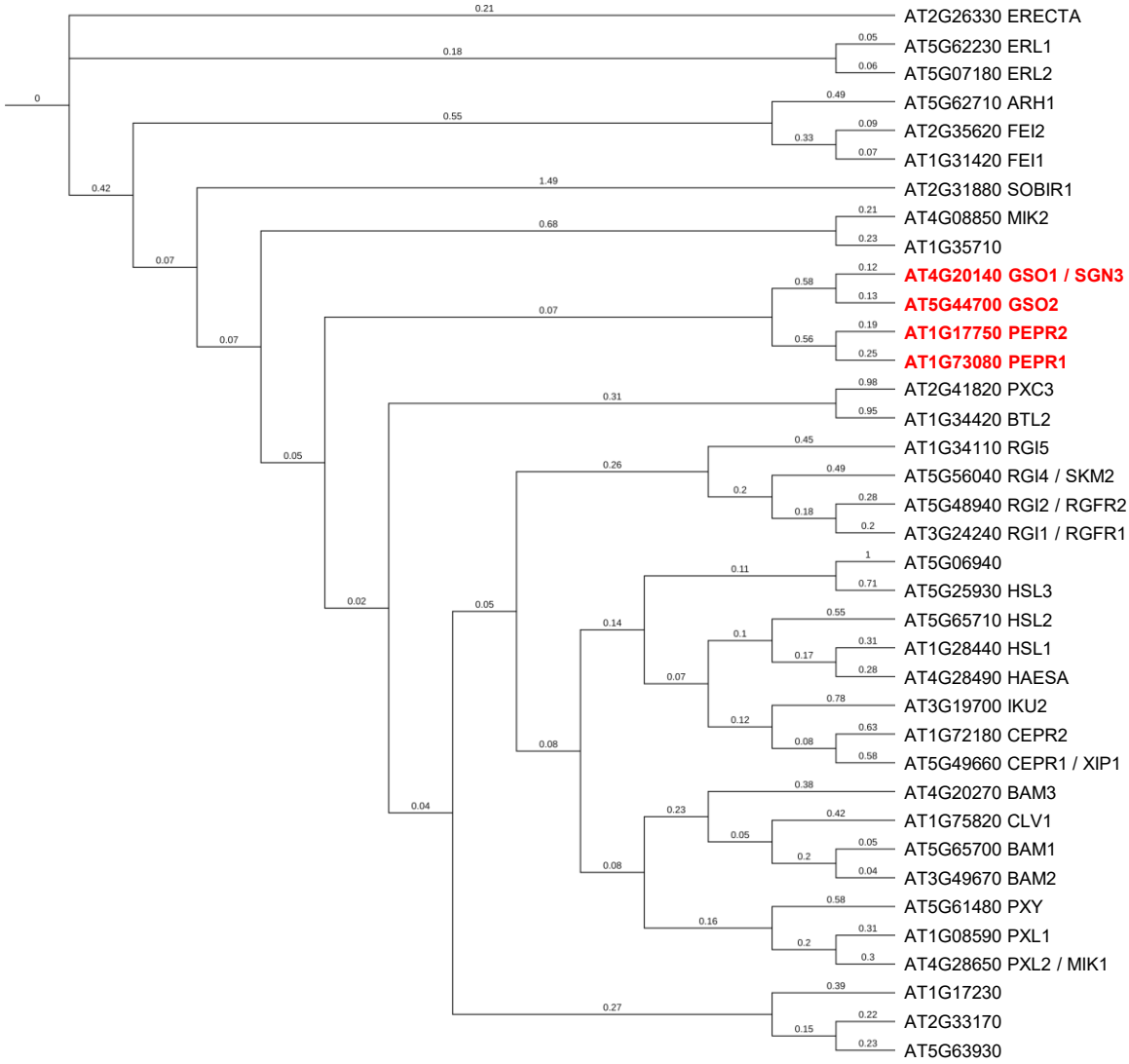
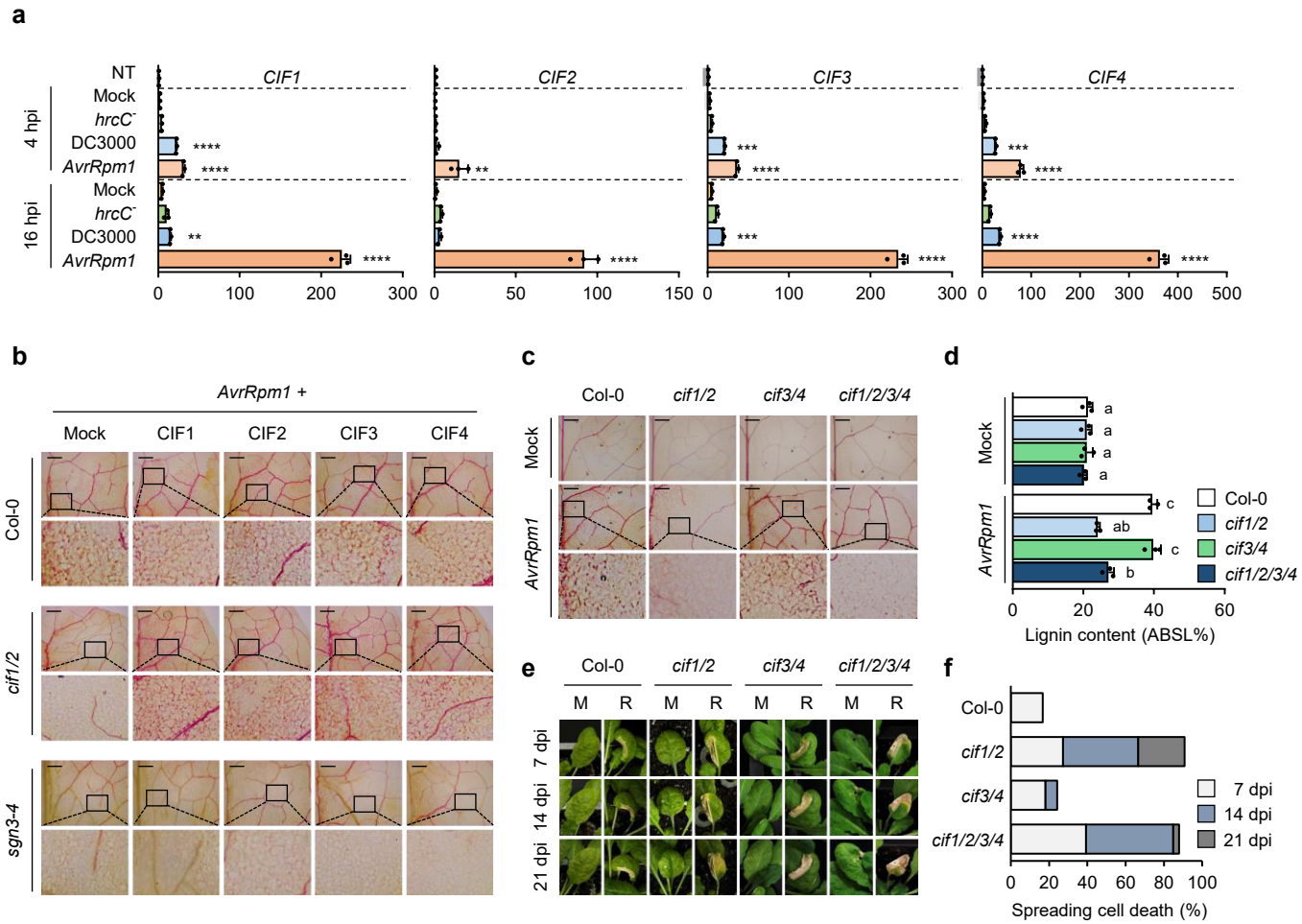
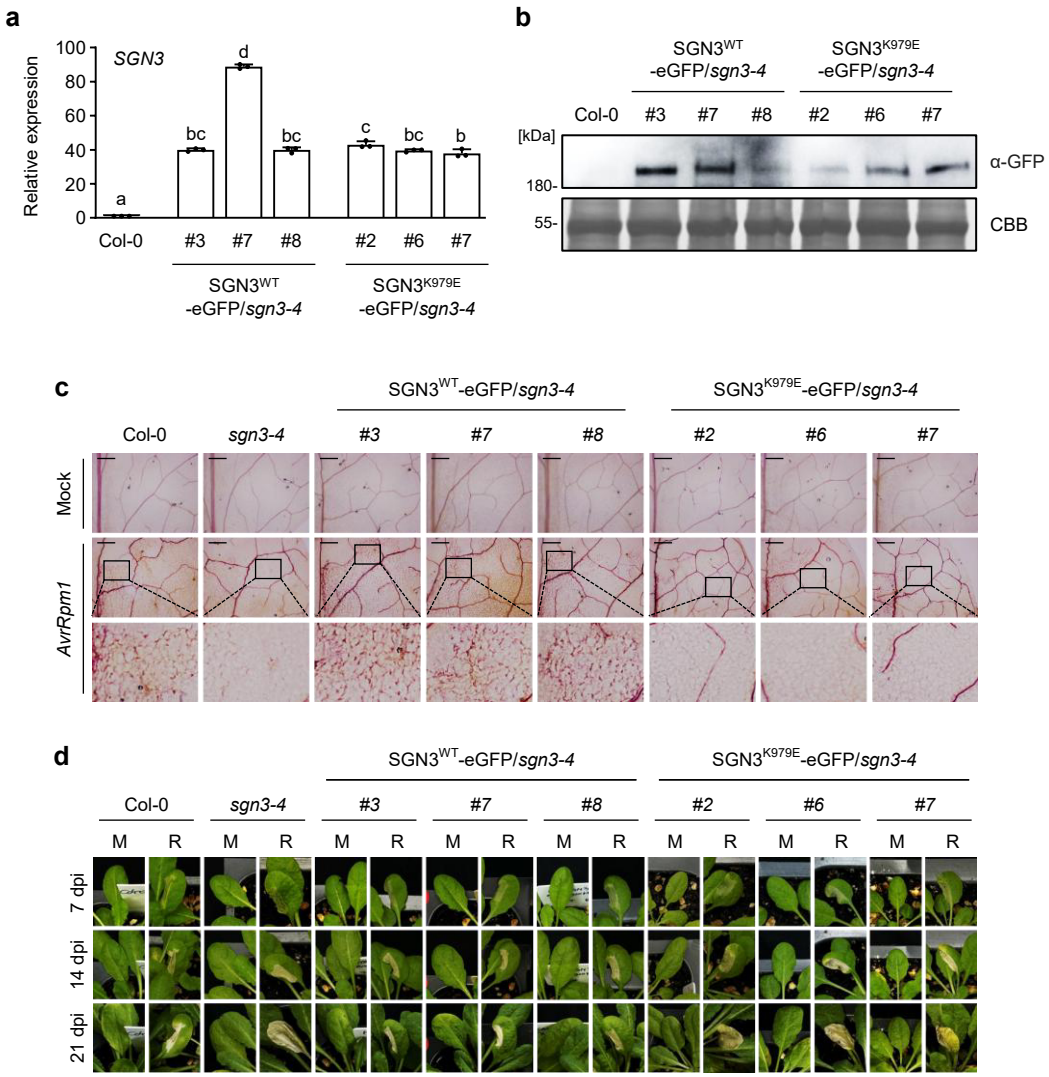


Extended Data Fig. 1. Phylogenetic analysis of the LRR XI subfamily of leucine-rich repeat receptor kinases.

Phylogenetic analysis of the LRR XI subfamily of leucine-rich repeat receptor kinases (LRR-RKs) was performed using the NGPhylogeny platform (https://ngphylogeny.fr/). Protein sequences were aligned, and an unrooted phylogenetic tree was visualized using iTOL (https://itol.embl.de/). Branch lengths represent evolutionary distances, and phylogenetic relationships are indicated.


a
NT
Mock
hrcC-
DC3000
AvrRpm1
4 hpi
16 hpi
CIF1
CIF2
CIF3
CIF4
0 100 200 300
0 50 100 150
0 100 200 300
0 100 200 300 400 500
b
AvrRpm1 +
Mock
CIF1
CIF2
CIF3
CIF4
Col-0
cif1/2
sgn3-4
c
Col-0
cif1/2
cif3/4
cif1/2/3/4
Mock
AvrRpm1
d
Mock
AvrRpm1
a
a
a
a
c
ab
c
b
Col-0
cif1/2
cif3/4
cif1/2/3/4
0 20 40 60
Lignin content (ABSL%)
e
Col-0
cif1/2
cif3/4
cif1/2/3/4
M R M R M R M R
7 dpi
14 dpi
21 dpi
f
Col-0
cif1/2
cif3/4
cif1/2/3/4
7 dpi
14 dpi
21 dpi
0 20 40 60 80 100
Spreading cell death (%)

Extended Data Fig. 2. CIF1 and CIF2, but not CIF3 and CIF4, function in ETI-associated lignification.
a, Expression of *CIF1* to *CIF4* in Col-0 leaves infiltrated with mock or the indicated *Pst* DC3000 strains at 4 and 16 hpi. Data are means ± SD (n = 3). Asterisks indicate significant differences relative to the no-treatment control (NT) (t test; **P < 0.01; ***P < 0.001; ****P < 0.0001).
b, Phloroglucinol staining of Col-0, *cif1*/*2*, and *sgn3* leaves infiltrated with mock or *Pst* DC3000 (*AvrRpm1*) in the presence or absence of CIF1 to CIF4 peptides at 2 dpi. Boxed regions are shown at higher magnification below. Scale bars, 500 µm.
c, Phloroglucinol staining of Col-0, *cif1*/*2*, *cif3*/*4,* and *cif1*/*2*/*3*/*4* leaves infiltrated with mock or *Pst* DC3000 (*AvrRpm1*) at 2 dpi. Boxed regions are shown at higher magnification below. Scale bars, 500 µm.
d, Quantification of lignin content in leaves as shown in (**c**). Data are means ± SD (n = 3; 3–9 leaves each). Different letters indicate significant differences (Tukey's HSD test; P < 0.05).
e, Cell death phenotypes of Col-0, *cif1*/*2*, *cif3*/*4,* and *cif1*/*2*/*3*/*4* leaves infiltrated with mock or *Pst* DC3000 (*AvrRpm1*). M, mock; R, *Pst* DC3000 (*AvrRpm1*).
f, Quantification of leaves (n ≥ 30) with spreading cell death as shown in (**e**).
For all experiments, 6-week-old leaves were infiltrated with mock (10 mM $MgCl_2$) or the indicated *Pst* DC3000 strains at 1×10^8 CFU ml^{-1}. *hrcC*$^-$, *Pst* DC3000 *hrcC*$^-$; DC3000, *Pst* DC3000; *AvrRpm1*, *Pst* DC3000 (*AvrRpm1*); hpi, hours post-inoculation; dpi, days post-inoculation.


a
SGN3
Relative expression
100
80
60
40
20
0
a
bc
d
bc
c
bc
b
Col-0
#3
#7
#8
#2
#6
#7
SGN3WT -eGFP/sgn3-4
SGN3K979E -eGFP/sgn3-4
b
SGN3WT -eGFP/sgn3-4
SGN3K979E -eGFP/sgn3-4
Col-0
#3
#7
#8
#2
#6
#7
[kDa]
180-
55-
α-GFP
CBB
c
SGN3WT-eGFP/sgn3-4
SGN3K979E-eGFP/sgn3-4
Col-0
sgn3-4
#3
#7
#8
#2
#6
#7
Mock
AvrRpm1
d
SGN3WT-eGFP/sgn3-4
SGN3K979E-eGFP/sgn3-4
Col-0
sgn3-4
#3
#7
#8
#2
#6
#7
M
R
7 dpi
14 dpi
21 dpi

Extended Data Fig. 3. Validation of SGN3 wild-type (SGN3^{WT}) and kinase-dead (SGN3^{K979E}) complementation lines.

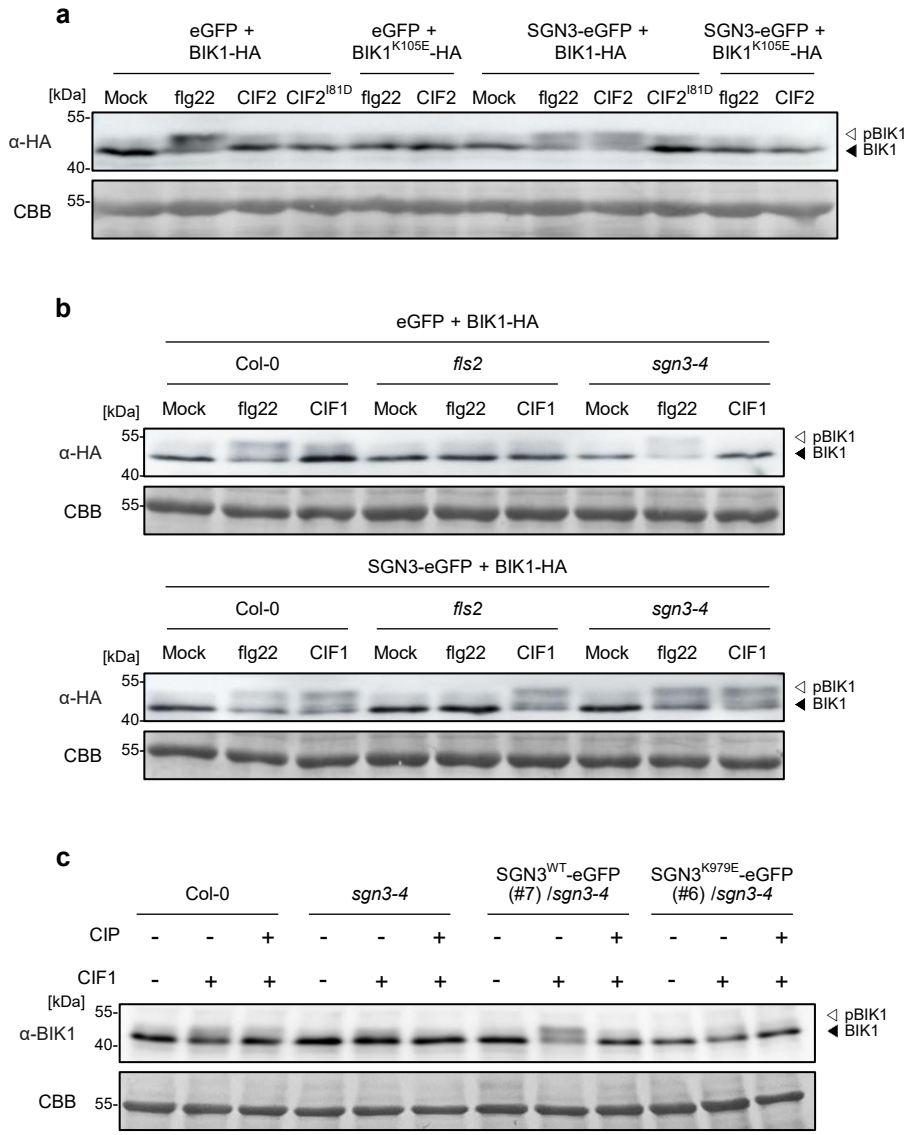
a, Analysis of *SGN3* transcript levels in Col-0, SGN3^{WT}-eGFP/*sgn3*, and SGN3^{K979E}-eGFP/*sgn3* complementation lines. Data are means ± SD (n = 3). Different letters indicate significant differences (Tukey's HSD test; $P < 0.05$).

b, Analysis of SGN3 protein levels in Col-0, SGN3^{WT}-eGFP/*sgn3*, and SGN3^{K979E}-eGFP/*sgn3* complementation lines. SGN3 expression was analyzed by immunoblotting using anti-GFP antibody. Protein loading was shown by Coomassie blue staining (CBB).

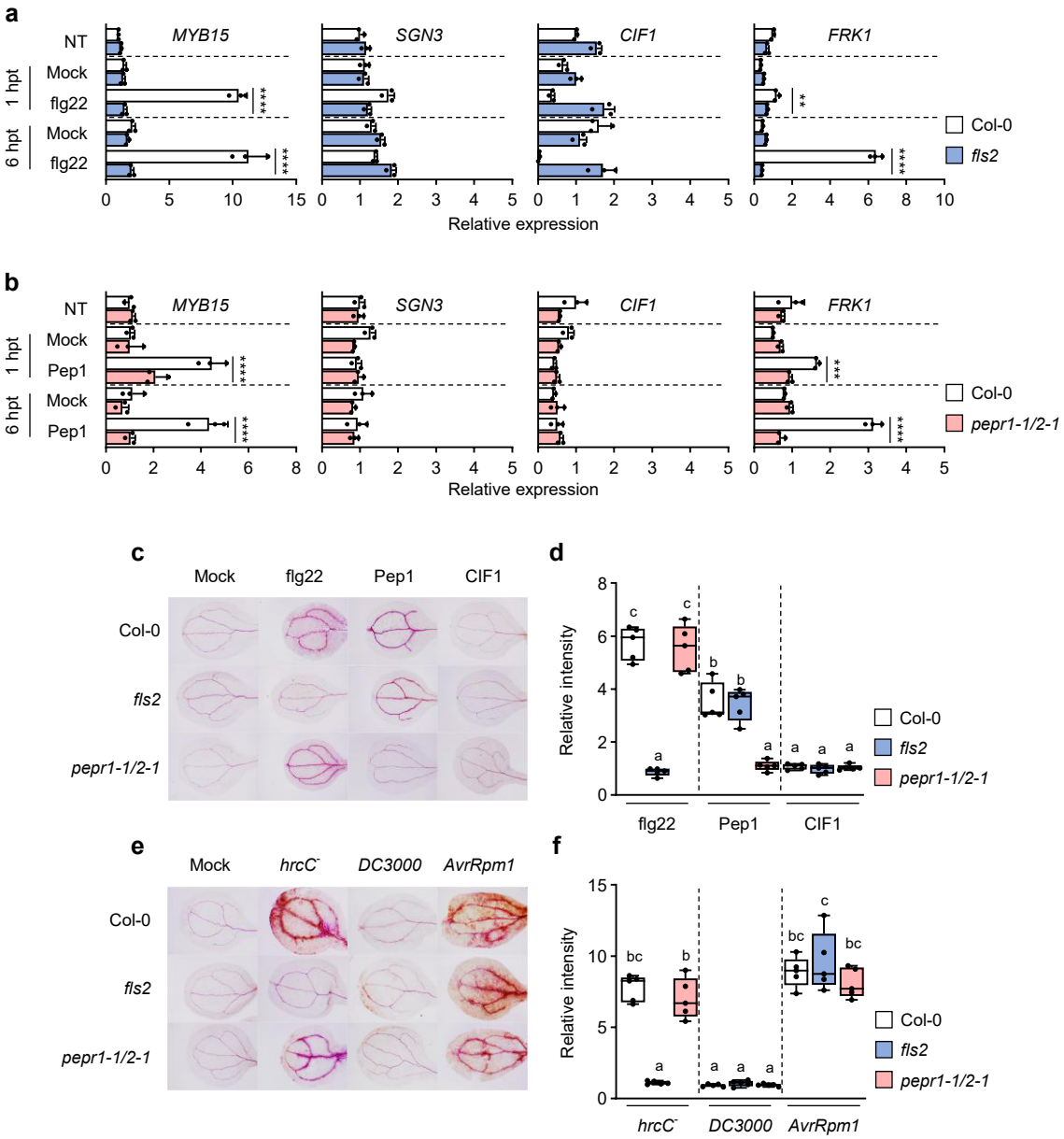
c, Phloroglucinol staining of Col-0, *sgn3*, SGN3^{WT}-eGFP/*sgn3*, and SGN3^{K979E}-eGFP/*sgn3* leaves infiltrated with mock or *Pst* DC3000 (*AvrRpm1*) at 2 dpi. Boxed regions are shown at higher magnification below. Scale bars, 500 μm.

d, Cell death phenotypes of Col-0, *sgn3*, SGN3^{WT}-eGFP/*sgn3*, and SGN3^{K979E}-eGFP/*sgn3* leaves infiltrated with mock or *Pst* DC3000 (*AvrRpm1*). M, mock; R, *Pst* DC3000 (*AvrRpm1*).

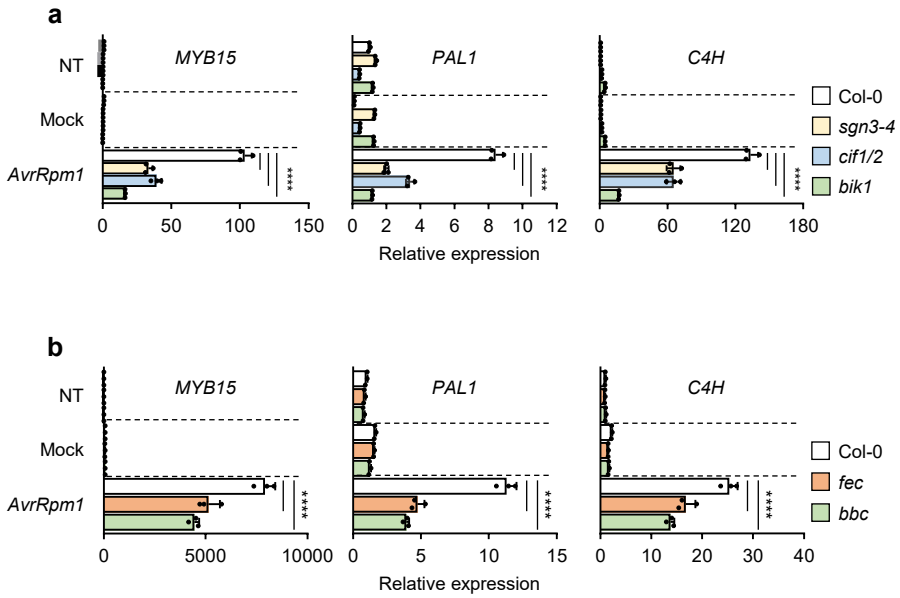
Six-week-old leaves were infiltrated with mock (10 mM $MgCl_2$) or *Pst* DC3000 (*AvrRpm1*) at 1×10^8 CFU ml^{-1} (**c, d**).


a
eGFP + BIK1-HA
eGFP + BIK1K105E-HA
SGN3-eGFP + BIK1-HA
SGN3-eGFP + BIK1K105E-HA
[kDa]
Mock flg22 CIF2 CIF2I81D flg22 CIF2 Mock flg22 CIF2 CIF2I81D flg22 CIF2
55-
α-HA
40-
◁ pBIK1
◀ BIK1
55-
CBB
b
eGFP + BIK1-HA
Col-0
fls2
sgn3-4
[kDa]
Mock flg22 CIF1 Mock flg22 CIF1 Mock flg22 CIF1
55-
α-HA
40-
◁ pBIK1
◀ BIK1
55-
CBB
SGN3-eGFP + BIK1-HA
Col-0
fls2
sgn3-4
[kDa]
Mock flg22 CIF1 Mock flg22 CIF1 Mock flg22 CIF1
55-
α-HA
40-
◁ pBIK1
◀ BIK1
55-
CBB
c
Col-0
sgn3-4
SGN3WT-eGFP (#7) /sgn3-4
SGN3K979E-eGFP (#6) /sgn3-4
CIP - - + - - + - - + - - +
CIF1 - + + - + + - + + - + +
[kDa]
55-
α-BIK1
40-
◁ pBIK1
◀ BIK1
55-
CBB

Extended Data Fig. 4. SGN3 mediates CIF-induced BIK1 phosphorylation.
a, Mobility shift assay for CIF-induced BIK1 phosphorylation in a manner dependent on active BIK1 and CIF2. Col-0 protoplasts transiently expressing BIK1-HA or BIK1^{K105E}-HA together with eGFP or SGN3-eGFP were treated with mock (distilled water) or flg22, CIF2, and CIF2^{I81D} peptides (1 μM) for 1 h.
b, Mobility shift assay for CIF-induced BIK1 phosphorylation in a manner dependent on SGN3 expression. Col-0, *fls2*, and *sgn3* protoplasts transiently expressing BIK1-HA together with eGFP or SGN3-eGFP were treated with mock (distilled water) or flg22 and CIF1 peptides (1 μM) for 1 h.
c, Mobility shift assay for CIF-induced BIK1 phosphorylation in SGN3 complementation lines. Col-0, *sgn3*, SGN3^{WT}-eGFP/*sgn3*, and SGN3^{K979E}-eGFP/*sgn3* protoplasts transiently expressing BIK1-HA were treated with mock (distilled water) or CIF1 peptide (1 μM) for 1 h. Protein extracts from CIF1-treated protoplasts were treated with calf alkaline intestinal phosphatase (CIP) for BIK1 dephosphorylation.
Protein extracts were analyzed by immunoblotting using anti-HA (**a, b**) and anti-BIK1 (**c**) antibodies to detect BIK1. Coomassie blue staining (CBB) served as a loading control.


a
NT
1 hpt
Mock
flg22
6 hpt
Mock
flg22
MYB15
SGN3
CIF1
FRK1
Col-0
fls2
Relative expression
b
NT
1 hpt
Mock
Pep1
6 hpt
Mock
Pep1
MYB15
SGN3
CIF1
FRK1
Col-0
pepr1-1/2-1
Relative expression
c
Mock
flg22
Pep1
CIF1
Col-0
fls2
pepr1-1/2-1
d
Relative intensity
Col-0
fls2
pepr1-1/2-1
flg22
Pep1
CIF1
e
Mock
hrcC-
DC3000
AvrRpm1
Col-0
fls2
pepr1-1/2-1
f
Relative intensity
Col-0
fls2
pepr1-1/2-1
hrcC-
DC3000
AvrRpm1

Extended Data Fig. 5. PRR signaling regulates PTI-associated lignification.
a, b, Expression of *MYB15*, *SGN3*, *CIF1*, and *FRK1* in Col-0, *fls2* (**a**), and *pepr1*/*2* (**b**) protoplasts treated with mock or flg22 (**a**) and Pep1 (**b**) peptides for 1 and 6 h. Data are means ± SD (n = 3). Asterisks indicate significant differences relative to the no-treatment control (NT) (t test; **P < 0.01; ***P < 0.001; ****P < 0.0001).
c, Phloroglucinol staining of Col-0, *fls2*, and *pepr1*/*2* seedlings treated with mock or flg22, Pep1, and CIF1 peptides for 3 days.
d, Quantification of phloroglucinol-stained lignin in leaves as shown in (**c**). Data are means ± SD (n ≥ 3). Different letters indicate significant differences (Tukey's HSD test; P < 0.05).
e, Phloroglucinol staining of Col-0, *fls2*, and *pepr1*/*2* seedlings flood-inoculated with mock or the indicated *Pst* DC3000 strains at 3 dpi.
f, Quantification of phloroglucinol-stained lignin in leaves as shown in (**e**). Data are means ± SD (n ≥ 3). Different letters indicate significant differences (Tukey's HSD test; P < 0.05).
Protoplasts were treated with mock (distilled water) or 1 μM peptides (**a, b**). Twelve-day-old seedlings were treated with mock (distilled water) or 1 μM peptides (**c, d**), and with mock (10 mM $MgCl_2$) or the indicated *Pst* DC3000 strains at 1×10^8 CFU ml^{-1} (**e, f**). *hrcC*$^-$, *Pst* DC3000 *hrcC*$^-$; DC3000, *Pst* DC3000; *AvrRpm1*, *Pst* DC3000 (*AvrRpm1*); hpt, hours post-treatment.



Extended Data Fig. 6. Expression of lignin biosynthetic genes in SGN- and PTI-related mutants.
a, b, Expression of *MYB15*, *PAL1*, and *C4H* in Col-0, *sgn3*, *cif1*/*2*, and *bik1* (**a**), and *fec* and *bbc* (**b**) leaves infiltrated with mock or *Pst* DC3000 (*AvrRpm1*) at 16 hpi. Six-week-old leaves were infiltrated with mock (10 mM $MgCl_2$) or *Pst* DC3000 (*AvrRpm1*) at 1×10^8 CFU ml^{-1}. Data are means ± SD (n = 3). Asterisks indicate significant differences relative to the no-treatment control (NT) (*t* test; ****$P < 0.0001$).