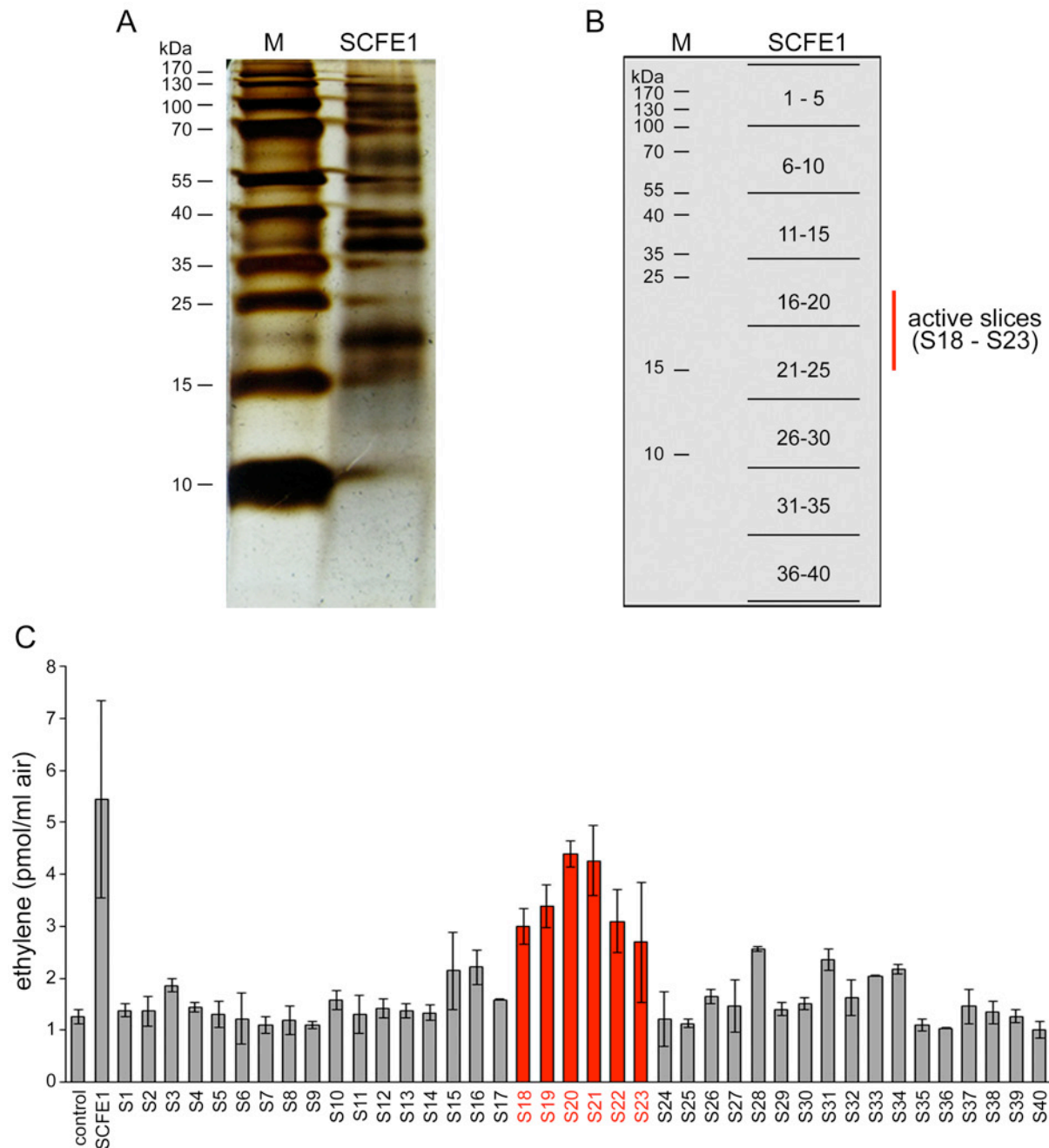


**Supplemental Figure 1. Isolation and physico-chemical properties of the SCFE1-containing fraction.**

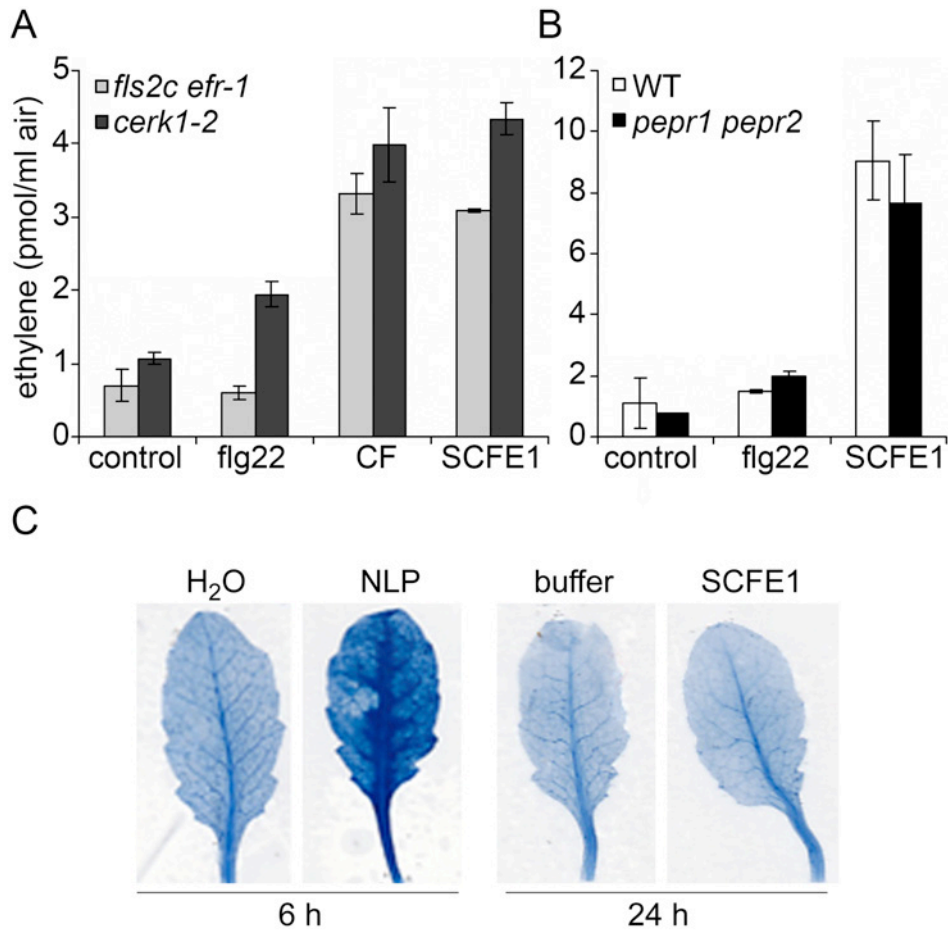
**(A)** SDS-PAGE of 2.5 µg *S. sclerotiorum* culture filtrate proteins (CF), 0.4 µg proteins eluted from a Sepharose SP cation exchange chromatography (S1), 0.3 µg proteins re-chromatographed on Source 15S cation exchange FPLC (SCFE1). Standard Protein Molecular Mass Marker (M). Proteins were visualized by silver staining. **(B)** Fractions from *S. sclerotiorum* were tested for ethylene-inducing activity on *Arabidopsis* Col-0 leaf pieces: buffer (control), 6 µg/ml culture filtrate proteins (CF), 0.5 µg/ml proteins eluted from Sepharose SP (S1), 0.35 µg/ml proteins eluted from Source 15S (SCFE1). Ethylene production was measured by gas chromatography 3 h after incubation. Bars represent average values ± S.D. (n=2). The experiment was repeated at least three times with similar results. **(C)** The SCFE1-containing fraction (0.5 µg/ml) was incubated with different proteases (+) - proteinase K (Prot K), AspN, trypsin, GluC, or a commercial deglycosylation mixture (degluc) - or the respective enzyme buffers (-) and tested for ethylene-inducing activity on

*Arabidopsis* Col-0 leaf pieces. Untreated leaf pieces were used as a control (c). Bars represent average values  $\pm$  S.D. (n=2). The experiment was performed two times with similar results. **(D)** Before addition to *Arabidopsis* Col-0 leaf pieces, the SsE1-containing fraction was either left untreated (-), heated for 10 min at 95°C (heat) or incubated in 0.1% SDS for 1 h at room temperature (SDS). Untreated leaf pieces were used as a control (c). Bars represent average values  $\pm$  S.D. (n=2). The experiment was performed two times with similar results. **(E)** Dose-response relationship for SCFE1-induced ethylene production in *Arabidopsis* Col-0 leaves. Represented are average values  $\pm$  S.D. (n=2). The experiment was repeated three times with similar results.



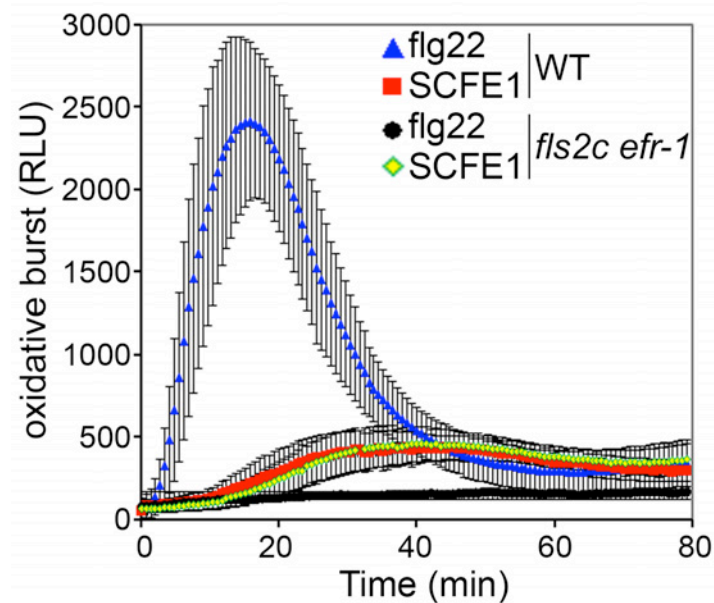
**Supplemental Figure 2. Elicitor activity of SCFE1 can be purified from SDS-PAGE.**

**(A)** SDS-PAGE of 8  $\mu$ g of SCFE1-containing fractions that were pooled and freeze-dried after elution of the Source 15S cation exchange FPLC. Standard Protein Molecular Mass Marker (M). Proteins were visualized by silver staining. **(B)** 50  $\mu$ g of SCFE1-containing fractions that were pooled and freeze-dried after elution of the Source 15S cation exchange FPLC were separated on a tricine-SDS PA gel and the lane was cut into 2 mm large segments (S1-S40) as depicted in the scheme. Each segment was incubated overnight in 100  $\mu$ l 100 mM Mes buffer pH 5.4 containing 0.1% SDS for protein elution. **(C)** 20  $\mu$ l of eluted proteins were tested for ethylene-inducing activity on *Arabidopsis* Col-0 leaf pieces. SCFE1 activity was recovered from gel segments S18-S23 (red) corresponding to proteins with a molecular mass of 16-22 kDa. Buffer (control), 0.35  $\mu$ g/ml proteins eluted from Source 15S (SCFE1). Ethylene production was measured by gas chromatography 3 h after incubation. Bars represent average values  $\pm$  S.D. (n=2). The experiment was repeated three times with similar results.



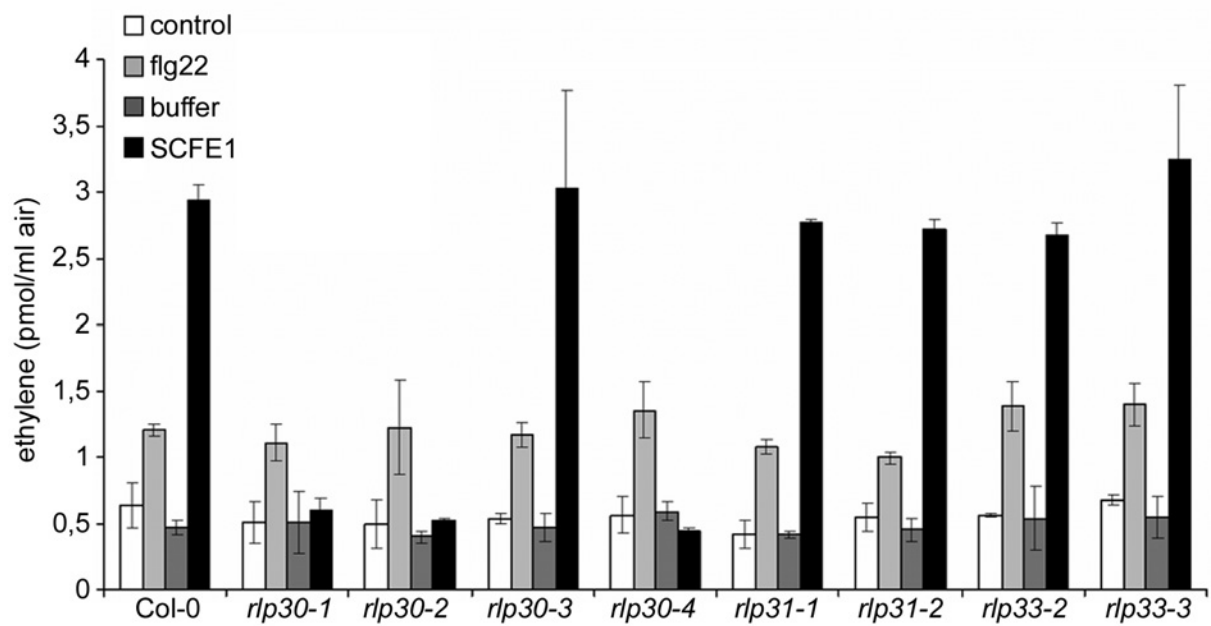
**Supplemental Figure 3. The SCFE1-containing fraction does not induce necrosis and triggers ethylene production independently of known MAMP or DAMP receptors.**

**(A, B)** Leaf pieces of *Arabidopsis* Col-0 wild type plants (WT), the *cerk1* single mutant or the *fls2c efr-1* and *pepr1pepr2* double mutant were treated with *S. sclerotiorum* culture filtrate (CF), 0.5  $\mu$ g/ml of the SCFE1-containing fraction, 500 nM flg22 or left untreated (control) prior to measurement of ethylene production. Bars represent average values  $\pm$  S.D. (n=2). The experiment was repeated two times with similar results. **(C)** The SCFE1-containing fraction was tested for cell death-inducing activity. 0.5  $\mu$ g/ml SCFE1 or 3  $\mu$ M purified NLP from *P. parasitica* were infiltrated into *Arabidopsis* Col-0 leaves. Cell death was visualized by trypan blue staining.

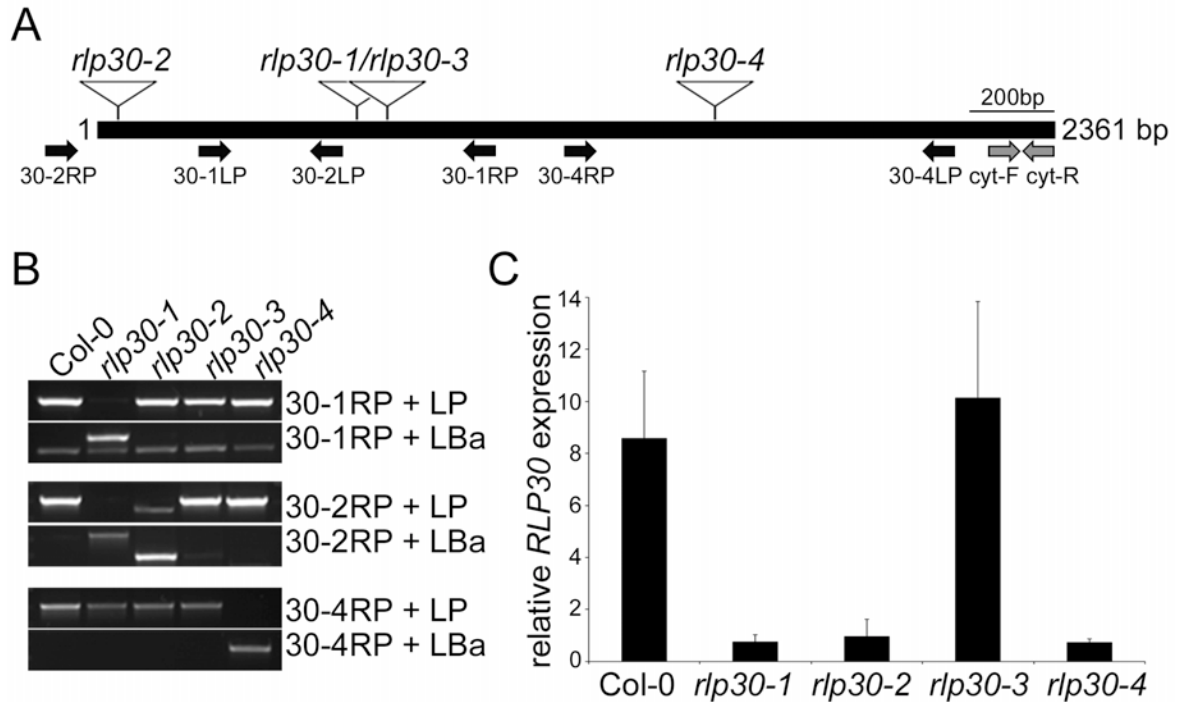


**Supplemental Figure 4. The SCFE1-containing fraction triggers ROS production independently of known MAMP receptors.**

Oxidative burst triggered by 0.12  $\mu\text{g/ml}$  of the SCFE1-containing fraction in *Arabidopsis* Col-0 (red) and the *fls2c efr-1* double mutant (green) leaf discs or by 100 nM flg22 in *Arabidopsis* Col-0 (blue) and the *fls2c efr-1* double mutant (black) leaf discs, measured in relative light units (RLU). Results are means  $\pm$  S.D. (n = 6).

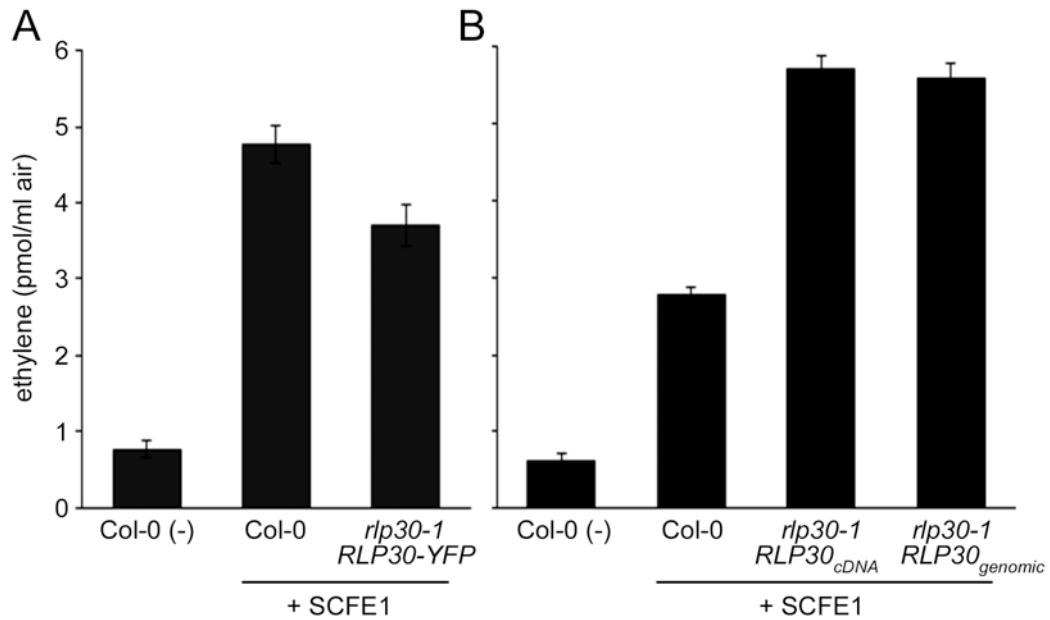


**Supplemental Figure 5. SCFE1-triggered ethylene production in candidate *rlp* mutants.** Ethylene assay in *Arabidopsis* Col-0 plants compared to *rlp* mutants representing candidate genes in the chromosome region mapped for SCFE1 sensitivity. Leaf pieces were treated with 0.25  $\mu$ g/ml of the SCFE1-containing fraction or as a control with 500 nM flg22 or buffer prior measurement of ethylene production. Bars represent average values  $\pm$  S.D. (n=2). The experiment was repeated three times with similar results.



**Supplemental Figure 6. Analysis of *Arabidopsis rlp30* mutants.**

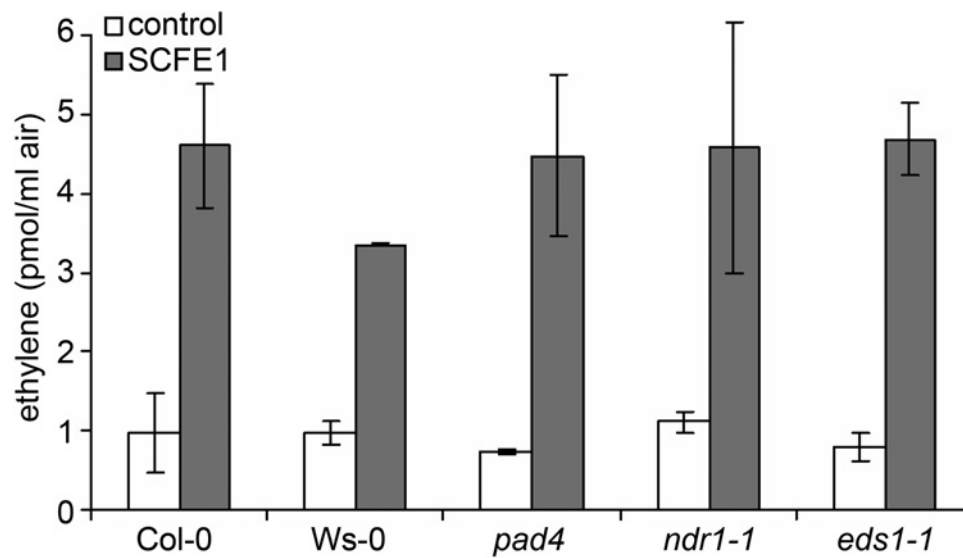
**(A)** Schematic representation of the *RLP30* gene with the positions of the four *rlp30* T-DNA insertions and the primers used for genotyping **(B)** and transcript analysis **(C)**. **(B)** Genomic DNA from Col-0 wild type seedlings or the indicated *rlp30* mutant lines was subjected to PCR using the indicated primer pairs (RP, right border primer; LP, left border primer; LBa, left border primer from the T-DNA insertion). Positions of the primers are depicted in (A). **(C)** Transcriptional profiling of *RLP30* in the different *rlp30* T-DNA insertion lines by quantitative real-time PCR (qRT-PCR). Total RNA from seedlings was subjected to qRT-PCR using *RLP30* specific primers *cyt-F* and *cyt-R*, of which positions are depicted in (A). Gene expression was normalized to the levels of *EF-1 $\alpha$*  transcript. Error bars, S.D. (n=3).



**Supplemental Figure 7. Ethylene response in complemented *rlp30-1* mutant plants.**

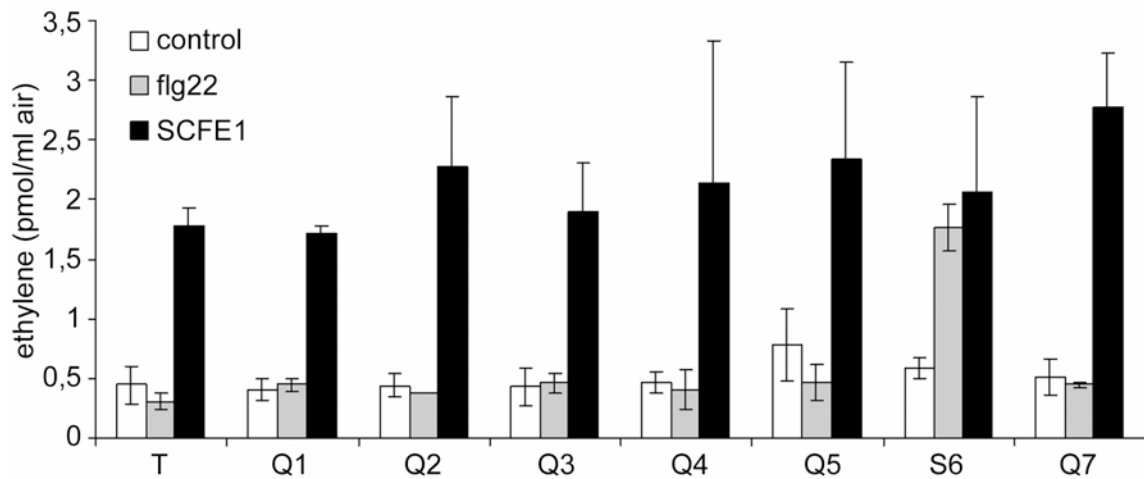
Ethylene assay in *Arabidopsis* Col-0 plants and *rlp30-1* mutant lines complemented with constructs *p35S:RLP30-YFP* (A) *p35S:RLP30<sub>cDNA</sub>* and *p35S:RLP30<sub>genomic</sub>* (B). Leaf pieces were treated with 0.25  $\mu$ g/ml SCFE1-containing fraction or left untreated (-) prior to measurement of ethylene production. Bars represent average values  $\pm$  S.D. (n=2). The experiment was repeated with similar results.





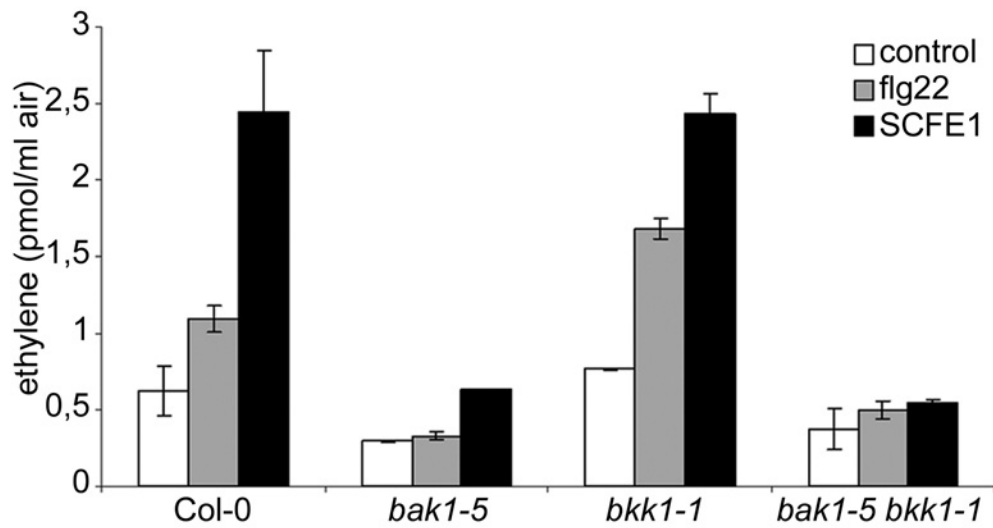
**Supplemental Figure 8. The activity of the SCFE1-containing fraction does not depend on known ETI components.**

Leaf pieces of *pad4*, *ndr1-1* plants (in the Col-0 background) or the *eds1-1* single mutant (in the Ws-0 background) were treated with 0.25  $\mu$ g/ml of the SCFE1-containing fraction or water as a control prior to measurement of ethylene production. Bars represent average values  $\pm$  S.D. (n=2). The experiment was repeated two times with similar results.



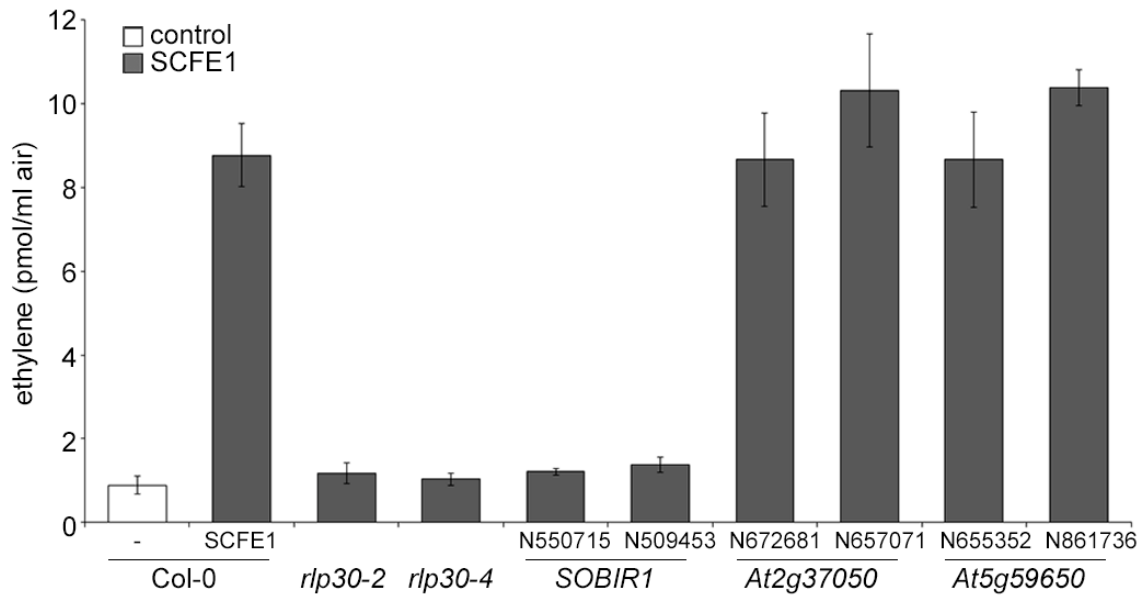
**Supplemental Figure 9. SCFE1 perception does not require LRR-RLK XII family members.**

The SCFE1-containing fraction (0.8  $\mu\text{g/ml}$ ) was tested for ethylene-inducing activity on leaf pieces of indicated *Arabidopsis* mutants. The mutants were the following: T (*fls2 efr cerk1* triple mutant), Q1 (*fls2 efr cerk1 xii1* quadruple mutant), Q2 (*fls2 efr cerk1 xii2*), Q3 (*fls2 efr cerk1 xii3*), Q4 (*fls2 efr cerk1 xii4*), Q5 (*fls2 efr cerk1 xii5*), S6 (*xii6* single mutant), Q7 (*fls2 efr cerk1 xii7*). Nomenclature of the LRR-RLK XII family members was according to Shiu and Bleeker (Shiu and Bleeker, 2001). Bars represent average values  $\pm$  S.D. (n=2). The experiment was performed two times with similar results.



**Supplemental Figure 10. The activity of the SCFE1-containing fraction does not depend on BKK1.**

Leaf pieces of *Arabidopsis* Col-0 wild type plants, *bak1-5* and *bkk1-1* single mutants or the *bak1-5 bkk1-1* double mutant were treated with 0.25  $\mu$ g/ml of the SCFE1-containing fraction, 500 nM flg22 or left untreated (control) prior to measurement of ethylene production. Bars represent average values  $\pm$  S.D. (n=2). The experiment was repeated three times with similar results.



**Supplemental Figure 11. The activity of the SCFE1-containing fraction depends on SOBIR1/EVR.**

Ethylene assay in *Arabidopsis* Col-0 plants compared to *rlk* mutants identified in Y2H as candidate interactors of RLP30. Leaf pieces were treated with 0.25  $\mu$ g/ml of the SCFE1-containing fraction or as a control with 500 nM flg22 or buffer prior measurement of ethylene production. Bars represent average values  $\pm$  S.D. (n=2).

**Supplemental Table 1. SCFE1 sensitivity is controlled by a single recessive gene locus in different *Arabidopsis* accessions.**

<b>Plants</b>	<b>Sensitivity</b>	<b>Insensitivity</b>
<b>F1 (Mt-0 X Col-0)</b>	<b>10</b>	<b>0</b>
<b>F1 (Sq-1 X Col-0)</b>	<b>10</b>	<b>0</b>
<b>F1 (Lov-1 X Col-0)</b>	<b>10</b>	<b>0</b>
<b>F1 (Lov-1 X Mt-0)</b>	<b>0</b>	<b>10</b>
<b>F1 (Lov-1 X Sq-1)</b>	<b>0</b>	<b>10</b>
<b>F2 (Lov-1 X Col-0)</b>	<b>206</b>	<b>64</b>

The SCFE1-containing fraction was tested for ethylene-inducing activity on leaf pieces of indicated *Arabidopsis* plants (number of plants as shown). Sensitivity: induction level was above the untreated control. Insensitivity: induction level was similar to the untreated control. F2 populations from the Lov-1 x Col-0 cross showed a segregation ratio of 3:1 (206 sensitive versus 64 insensitive plants,  $X^2 = 0.178$ , p-value = 0.67309, using  $X^2$  test and after Yates's correction).

**Supplemental Table 2. Putative interactors of RLP30.**

AGI ID	Functional Description
<a href="#">AT1G07860</a>	Unknown: BEST <i>Arabidopsis thaliana</i> protein match is: Protein kinase superfamily protein (TAIR:AT1G07870.2)
<a href="#">AT1G12670</a>	Unknown protein
<a href="#">AT1G13770</a>	RUS3, Protein of unknown function, DUF647
<a href="#">AT1G14020</a>	O-fucosyltransferase family protein
<a href="#">AT1G14360</a>	ATUTR3, UTR3, UDP-galactose transporter 3
<a href="#">AT1G17280</a>	UBC34, ubiquitin-conjugating enzyme 34
<a href="#">AT1G19570</a>	DHAR1, ATDHAR1, DHAR5, dehydroascorbate reductase
<a href="#">AT1G21240</a>	<b>WAK3, wall associated kinase 3 RLK/Pelle</b>
<a href="#">AT1G21870</a>	GONST5, golgi nucleotide sugar transporter 5
<a href="#">AT1G23300</a>	MATE efflux family protein
<a href="#">AT1G27290</a>	Unknown protein
<a href="#">AT1G29060</a>	Target SNARE coiled-coil domain protein
<a href="#">AT1G31812</a>	ACBP6, ACBP, acyl-CoA-binding protein 6
<a href="#">AT1G34640</a>	peptidases
<a href="#">AT1G45145</a>	ATTRX5, ATH5, LIV1, TRX5, thioredoxin H-type 5
<a href="#">AT1G63110</a>	GPI transamidase subunit PIG-U
<a href="#">AT1G63120</a>	ATRBL2, RBL2, RHOMBOID-like 2
<a href="#">AT1G65690</a>	Late embryogenesis abundant (LEA) hydroxyproline-rich glycoprotein family
<a href="#">AT1G77350</a>	Unknown protein
<a href="#">AT1G78240</a>	TSD2, QUA2, S-adenosyl-L-methionine-dependent methyltransferases superfamily protein
<a href="#">AT1G78380</a>	ATGSTU19, GST8, GSTU19, glutathione S-transferase TAU 19
<a href="#">AT2G22425</a>	Microsomal signal peptidase 12 kDa subunit (SPC12)
<a href="#">AT2G26180</a>	IQD6, IQ-domain 6 (Calcium binding)
<a href="#">AT2G27290</a>	Protein of unknown function (DUF1279)
<a href="#">AT2G28315</a>	Nucleotide/sugar transporter family protein
<a href="#">AT2G31880</a>	<b>SOBIR1, EVR, Leucine-rich repeat protein kinase family protein</b>
<a href="#">AT2G36305</a>	RCE1, ATFACE-2, ATFACE2, FACE2, farnesylated protein-converting enzyme 2
<a href="#">AT2G37050</a>	<b>Leucine-rich repeat protein kinase family protein</b>
<a href="#">AT2G41490</a>	GPT, UDP-glcnae-adolichol phosphate glcnae-1-p-transferase
<a href="#">AT3G01360</a>	Family of unknown function (DUF716)
<a href="#">AT3G03210</a>	Unknown protein
<a href="#">AT3G10640</a>	VPS60.1, SNF7 family protein
<a href="#">AT3G11550</a>	Uncharacterised protein family (UPF0497)
<a href="#">AT3G12180</a>	Cornichon family protein
<a href="#">AT3G13175</a>	Unknown protein
<a href="#">AT3G17000</a>	UBC32, ubiquitin-conjugating enzyme 32
<a href="#">AT3G17210</a>	ATHS1, HS1, heat stable protein 1
<a href="#">AT3G18800</a>	Unknown protein
<a href="#">AT3G20600</a>	NDR1, Late embryogenesis abundant (LEA) hydroxyproline-rich glycoprotein family
<a href="#">AT3G25805</a>	Unknown protein
<a href="#">AT3G26020</a>	Protein phosphatase 2A regulatory B subunit family protein
<a href="#">AT3G57650</a>	LPAT2, lysophosphatidyl acyltransferase 2
<a href="#">AT3G62560</a>	Ras-related small GTP-binding family protein
<a href="#">AT3G66654</a>	Cyclophilin-like peptidyl-prolyl cis-trans isomerase family protein
<a href="#">AT4G14455</a>	ATBET12, BET12, ATBS14B, BS14B, Target SNARE coiled-coil

	domain protein
<a href="#">AT4G20790</a>	<b>Leucine-rich repeat protein kinase family protein</b>
<a href="#">AT4G23010</a>	ATUTR2, UTR2, UDP-galactose transporter 2
<a href="#">AT4G23400</a>	PIP1D, PIP1;5, plasma membrane intrinsic protein 1;5
<a href="#">AT4G27780</a>	ACBP2, acyl-CoA binding protein 2
<a href="#">AT4G29330</a>	DER1, DERLIN-1
<a href="#">AT4G30500</a>	Protein of unknown function (DUF788)
<a href="#">AT4G30850</a>	HHP2, heptahelical transmembrane protein2
<a href="#">AT4G37370</a>	CYP81D8, cytochrome P450, family 81, subfamily D, polypeptide 8
<a href="#">AT4G37680</a>	HHP4, heptahelical protein 4
<a href="#">AT4G38690</a>	PLC-like phosphodiesterases superfamily protein
<a href="#">AT4G39890</a>	AtRABH1c, RABH1c, RAB GTPase homolog H1C
<a href="#">AT5G06320</a>	NHL3, NDR1/HIN1-like 3
<a href="#">AT5G11890</a>	Unknown: BEST <i>Arabidopsis thaliana</i> protein match is: Late embryogenesis abundant (LEA) hydroxyproline-rich glycoprotein family (TAIR:AT1G17620.1)
<a href="#">AT5G21920</a>	YLMG2, ATYLMG2, YGGT family protein
<a href="#">AT5G35460</a>	Protein of unknown function DUF2838
<a href="#">AT5G42980</a>	ATTRX3, ATH3, ATTRXH3, TRXH3, TRX3, thioredoxin 3
<a href="#">AT5G49540</a>	Rab5-interacting family protein
<a href="#">AT5G52240</a>	MSBP1, membrane steroid binding protein 1
<a href="#">AT5G52420</a>	Unknown protein
<a href="#">AT5G59650</a>	<b>Leucine-rich repeat protein kinase family protein</b>
<a href="#">AT5G63030</a>	Thioredoxin superfamily protein

Original data retrieved from the membrane-based Interactome Network Database (<http://www.associomics.org/Associomics/Home.html>). RLK-type proteins are indicated in bold.

**Supplemental Table 3. *Arabidopsis* mutant and transgenic lines used in this study**

AGI	Gene name	Mutant name	Stock name	Reference
<i>At3g05360</i>	<i>RLP30</i>	<i>rlp30-1</i>	SALK_122528	(Wang et al., 2008)
		<i>rlp30-2</i>	SALK_008911	
		<i>rlp30-3</i>	SALK_122536	
		<i>rlp30-4</i>	SALK_145342	
<i>At3g05370</i>	<i>RLP31</i>	<i>rlp31-1</i>	SALK_058586	(Wang et al., 2008)
		<i>rlp31-2</i>	SALK_094160	
<i>At3g05660</i>	<i>RLP33</i>	<i>rlp33_2</i>	SALK_087631	(Wang et al., 2008)
		<i>rlp33_3</i>	SALK_085252	
<i>At5g20480</i>	<i>EFR</i>	<i>efr-1</i>	SALK_044334	(Zipfel et al., 2006)
<i>At5g46330</i>	<i>FLS2</i>	<i>fls2c</i>	SAIL_691C4	(Zipfel et al., 2004)
<i>At4g33430</i>	<i>BAK1</i>	<i>bak1-3</i>	SALK_034532	(Schwessinger et al., 2011)
		<i>bak1-4</i>	SALK_116202	
		<i>bak1-5</i>	EMS-mutant	
<i>At2g13790</i>	<i>BKK1</i>	<i>bkk1-1</i>	SALK_057955	(Roux et al., 2009)
<i>At1g73080</i>	<i>PEPR1</i>	<i>pepr1</i>	SALK_059281	(Krol et al., 2010)
<i>At3g21630</i>	<i>CERK1</i>	<i>cerk1-2</i>	GK_096F09	(Miya et al., 2007)
<i>At1g17750</i>	<i>PEPR2</i>	<i>pepr2</i>	SALK_098161	(Krol et al., 2010)
<i>At3g52430</i>	<i>PAD4</i>	<i>pad4-1</i>	EMS-mutant	(Jirage et al., 1999)
<i>At3g20600</i>	<i>NDR1</i>	<i>ndr1-1</i>	Fast-neutron-Mutant	(Century et al., 1995)
<i>At3g48090</i>	<i>EDS1</i>	<i>eds1-1</i>	EMS-mutant	(Aarts et al., 1998)
<i>At1g35710</i>	<i>XII1</i>	<i>xii1-2</i>	GK-031G02	This study
<i>At2g24130</i>	<i>XII2</i>	<i>xii2-1</i>	SAIL_373_E04	
<i>At3g47090</i>	<i>XII3</i>	<i>xii3-1</i>	SALK_101474	
<i>At3g47110</i>	<i>XII4</i>	<i>xii4-1</i>	SALK_101668	
<i>At3g47570</i>	<i>XII5</i>	<i>xii5-1</i>	GK-415H04	
<i>At3g47580</i>	<i>XII6</i>	<i>xii6-1</i>	SAIL_31_F02	
<i>At4g08850</i>	<i>XII7</i>	<i>xii7-1</i>	SALK_061769	
<i>At2g31880</i>	<i>SOBIR1 (EVR)</i>	<i>sobir1-12 (evr-3)</i>	SALK_050715	
		<i>sobir1-13 (evr-4)</i>	SALK_009453	(Leslie et al., 2010)
<i>At2g37050</i>	<i>LRR-KINASE</i>	<i>lrr-kinase</i>	SALK_143700C	This study
			SALK_071422C	
<i>At5g59650</i>	<i>LRR-KINASE</i>	<i>lrr-kinase</i>	SALK_022711C	This study
			SAIL_1297_H07	



**Supplemental Table 4. Primers used for map-based cloning.**

<b>Marker name</b>	<b>Polymorphism Col-0/Lov-1</b>	<b>Primer name</b>	<b>Primer sequence (5' – 3')</b>
F11A12	Rsal digest	F11A12-F	GATATGCAGCTGATTGCAGAAG
		F11A12-R	TCACGTCATCGACTAGCTGTTT
MSJ11	442bp/262bp	MSJ11-F	GTGCGACGTGCAAAAACCTTAA AG
		MSJ11-R	GAGTTGTAGATAGAGACATCAT GG
F21O3	Alul digest	F21O3-F	GGTGAGTTTTTCATCACCAACAT
		F21O3-R	ATCAAATGGCCGTCTTTGTG
T9J14	ScrFI digest	T9J14-F	CGGAGCTGATCTCGAATTGT
		T9J14-R	ATCGGTGGTCTCTGATGGAC

**Supplemental Table 5. Primers used in qPCR analyses.**

Gene name	Primer name	Primer sequence (5' – 3')
<i>At3g05360</i> ( <i>RLP30</i> )	RLP-fd	CATGACCAAAGGGATGCTCT
	RLP30-rv	ACCTCGCCAGATTCATCATC
	RLP30cyt-F	ACTGCACACAAACACGAG
	RLP30cyt-R	TCAACGAGCACTTGTGGTG
<i>At2g19190</i> ( <i>FRK1</i> )	FRK1-100-F	AGCGGTCAGATTTCAACAGT
	FRK1-100-R	AAGACTATAAACATCACTCT
<i>At3g26830</i> ( <i>PAD3</i> )	PAD3-F	CTTTAAGCTCGTGGTCAAGGAGAC
	PAD3-R	TGGGAGCAAGAGTGGAGTTGTTG
<i>At3g04720</i> ( <i>PR-4</i> )	PR4-F	GCAAGTATGGCTGGACCGCCT
	PR4-R	CCAAGCCTCCGTTGCTGCATTG
<i>At2g30770</i> ( <i>CYP71A13</i> )	CYP71A13-F	GTGCTTCGGTTGCATCCTTCTC
	CYP71A13-R	CGCCCAAGCATTGATTATCACCTC
<i>At1g07920/30/40</i> ( <i>EF-1α</i> )	EF1a-F	TCACATCAACATTGTGGTCATTGG
	EF1a-R	TTGATCTGGTCAAGAGCCTACAG
<i>At5g09810</i> ( <i>Actin</i> )	Actin-fd	AGTGGTCGTACAACCGGTATTGT
	Actin-rv	GAGGAAGAGCATACCCCTCGTA
<i>Atcg00490</i> ( <i>Rubisco</i> )	AtRubisco-QF	GCAAGTGTTGGGTTCAAAGCTGGTG
	AtRubisco-QR	CCAGGTTGAGGAGTTACTCGGAATG CTG
<i>KC748491</i> ( <i>Sclerotinia ITS</i> )	Scl-qPCR-F	GGATCTCTTGGTTCTGGCAT
	Scl-qPCR-R	GCAATGTGCGTTCAAAGATT
<i>BC1G_08198</i> ( <i>Botrytis Actin</i> )	Bc_actin_qF	CCTCACGCCATTGCTCGTGT
	Bc_actin_qR	TTTCACGCTCGGCAGTGGTGG

## Supplemental Methods

### Enzymatic, chemical and thermal treatments of the SCFE1-containing fraction

To characterize the chemical nature of elicitor activity, the SCFE1-containing fraction was incubated with different proteases. For complete protein digestion, proteinase K (Roche) was added to SCFE1-containing fractions to a final concentration of 0.25 µg/µl. Samples were incubated for 1 h at 37 °C. For partial protein digestion, fractions were treated with the endoproteases AspN, GluC or trypsin (New England Biolabs) according to the manufacturer's protocols. AspN digestion was performed at 37 °C for 1 h, whereas GluC and trypsin digestions were performed at 25 °C for 1 h. To test whether glycosylation is important for elicitor activity, the SCFE1-containing fraction was incubated with a deglycosylation enzyme cocktail (New England Biolabs) in non-denaturing reaction conditions for 4 h at 37 °C according to the manufacturer's instructions. The importance of the native structure of SCFE1 for elicitor activity was investigated either by addition of SDS to a final concentration of 0.1 % or by heating at 95 °C for 10 min.

### Tricine SDS-PAGE of the SCFE1-containing fraction

Compared to the conventional Laemmli SDS-PAGE system, the Tricine SDS-PAGE is more suitable for the separation of small proteins (Schagger, 2006). Tricine SDS-PAGE was carried out by using the Mini-PROTEAN 3 system (Biorad) and discontinuous polyacrylamide gels were prepared as described (Schagger, 2006). In this study, a 12% running gel and a 4% stacking gel were used. The upper buffer chamber was filled with cathode buffer (500 ml: 6.055 g Tris base, 8.96 g Tricine and 0.5 g SDS), and the lower chamber was filled with anode buffer (500 ml: 12.11 g Tris base, pH 8.9). Active fractions containing SCFE1 were pooled and freeze-dried before being resuspended in NOVEX 2X Tricine-SDS sample buffer (10 ml: 3.0 ml 3.0 M Tris-HCl, pH 8.45, 2.4 ml glycerol, 0.8 g SDS, 1.5 ml 0.1% Coomassie Brilliant Blue G-250, 0.5 ml 0.1% Phenol Red). The SCFE1-containing sample was heated for 5 min at 95 °C and subsequently electrophoresed at 15-30 mA until the dye was eluted from the gel.

### Plant material

The transgenic *pPR-1:GUS* and *p35S:RLP30-YFP* lines and the T-DNA insertion lines for *RLP 30* (*rlp30-1*, SALK\_122528; *rlp30-2* SALK\_008911; *rlp30-3*, SALK\_122536; *rlp30-4*, SALK\_145342), *RLP31* (*rlp31-1*, SALK\_058586; *rlp31-2*, SALK\_094160), *RLP33* (*rlp33-2*, SALK\_087631; *rlp33-3*, SALK\_085252), *BAK1* (*bak1-3*, SALK\_034523; *bak1-4*, SALK\_116202; *bak1-5*, EMS-mutant), *BKK1* (*bkk1-1*, SALK\_057955), *SOBIR1* (*sobir1-12*, SALK\_009453; *sobir1-13*, SALK\_009453), *CERK1* (*cerk1-2*, GABI\_096F09) and the double mutants *bak1-5 bkk1-1*, *fls2c efr-1* and *pepr1 pepr2* have been characterized previously (Shapiro and Zhang, 2001; Chinchilla et al., 2007; Miya et al., 2007; Wang et al., 2008; Gao et al., 2009; Nekrasov et al., 2009; Krol et al., 2010; Leslie et al., 2010; Roux et al., 2011; Schwessinger et al., 2011)

To generate *fls2 efr cerk1 xii* quadruple mutants, *Arabidopsis xii* single mutants in the Col-0 background were crossed with the *fls2c efr-1 cerk1-2* triple mutant (Gimenez-Ibanez et al., 2009). T-DNA insertion in *fls2c* confers resistance to BASTA and T-DNA insertion in *cerk1-2* confers resistance to sulfadiazine. F2 seeds were surface-sterilized and germinated on MS medium supplemented with 10 mg/L phosphinotricine (Duchefa) and 5.25 mg/L sulfadiazine sodium salt (Sigma). 50 mg/L kanamycin was added as a third antibiotic for the selection of seedlings carrying *xii(x-x)*. Seedlings were assayed for their responses to elf18 (growth inhibition assay, (Zipfel et al., 2006)), flg22 and chitin (Albrecht et al., 2012). Insensitive plants were subsequently genotyped for the T-DNA insertions in *fls2c*, *efr-1*, *cerk1-2* and the mutation of the family *XII* gene of interest using the primers indicated below. Primers were

designed with the iSect tool (<http://signal.salk.edu/tdnaprimers.2.html>) and Primer 3 (<http://primer3.wi.mit.edu/>).

Gene name	Mutant name	Mutant-ID	Primer name	Primer sequence (5' - 3')
<i>RLP30</i> ( <a href="#">At3g05360</a> )	<i>rlp30-1</i>	SALK_122528	30-1LP	GAATCTGGCGTGGTGGTTCAC
			30-1RP	GCCCAACTAAGTTGTTGTGG
	<i>rlp30-2</i>	SALK_008911	30-2LP	TCCCGACAAATGAATTCTCAC
			30-2RP	TGTCGACGAGAAGCTTAGCTC
	<i>rlp30-3</i>	SALK_122536	30-1LP	GAATCTGGCGTGGTGGTTCAC
			30-1RP	GCCCAACTAAGTTGTTGTGG
	<i>rlp30-4</i>	SALK_145342	30-4LP	TCAACTTGTTCTTCTGGTCCG
			30-4RP	TGGACTTGGTTCGAATTCAC
<i>FLS2</i> ( <a href="#">At5g46330</a> )	<i>fls2c</i>	SAIL_691_C4	FLS2-LP	GGAGACAGAACACCTTCAAGT
			FLS2-RP	TGACCAGATTCCTCAATAGTC
<i>EFR</i> ( <a href="#">At5g20480</a> )	<i>efr-1</i>	SALK_044334	EFR-LP	CCATCCCTCGCTTACATAGATTTGTC
			EFR-RP	GCTGCAGCCACATATCCAGAC
<i>CERK1</i> ( <a href="#">At3g21630</a> )	<i>cerk1-2</i>	GK-096F09	CERK1-LP	AGCAACTCGGGGTGCAATGGGT
			CERK1-RP	CCTAGTCTAGACCGGCCGGACATAAG ACTGACTAAATCTTCG
<i>XII1</i> ( <a href="#">At1g35710</a> )	<i>xii1-2</i>	GK-031G02	XII1-LP	GCTTTTCGAAACGTTGGAGT
			XII1-RP	CGCCAGGAGTAGCAAACCTCT
<i>XII2</i> ( <a href="#">At2g24130</a> )	<i>xii2-1</i>	SAIL_373_E04	XII2-LP	TCAAGTTACACACGCGTTCAC
			XII2-RP	ACTGAAGTTGTGGCATCTTGC
<i>XII3</i> ( <a href="#">At3g47090</a> )	<i>xii3-1</i>	SALK_101474	XII3-LP	CCTGCAAAGTTTGAGAAGAAC
			XII3-RP	GGGAGCAATTAGTCAAAGCATC
<i>XII4</i> ( <a href="#">At3g47110</a> )	<i>xii4-1</i>	SALK_101668	XII4-LP	ACCCCTTCCGTTGGCACAGC
			XII4-RP	GGTACCATTCCAGAGACACTTTCCA
<i>XII5</i> ( <a href="#">At3g47570</a> )	<i>xii5-1</i>	GK-415H04	XII5-LP	TAAACGAGATGAATGCTTCTTCACCAC AGA
			XII5-RP	GAGAACAATCTGACAGGAAGTATTCTC AC

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<i>XII6</i> ( <a href="#">At3g47580</a> )	<i>xii6-1</i>	SAIL_31_F02	XII6-LP	AATGCTTTGTCTCCACTGGTG
			XII6-RP	AATGGTGGGTCTTGGGTTATC
<i>XII7</i> ( <a href="#">At4g08850</a> )	<i>xii7-1</i>	SALK_061769	XII7-LP	AACGGATCGATTCTTCTGA
			XII7-RP	TTTTGCCTGATAGCCGATTC
SALK			LBa	TGGTTCACGTAGTGGGCCATCG
SALK			LBb1.3	ATTTTGCCGATTTTCGGAAC
SAIL			LB3SAIL	TAGCATCTGAATTTTCATAACCAATCTCG ATACAC
GABI			o8409	ATATTGACCATCATACTCATTGC

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### Cloning of RLP30 constructs for complementation in the *rlp30* mutant

*RLP30* is predicted to be a single exon. This was confirmed by sequencing full-length cDNA from Col-0 amplified using RT-PCR. The resulting cDNA was cloned into the gateway entry vector pDONR/Zeo using BP clonase (Invitrogen) and subsequently transferred to the gateway compatible binary vector pEarleyGate101 (Earley et al., 2006) using LR clonase (Invitrogen). This resulted in a plasmid where *AtRLP30* was fused to YFP-HA and expression was driven by the CaMV 35S promoter. The *rlp30-1* mutant was transformed with this plasmid using the floral dip method (Clough and Bent, 1998). Transformed plants were selected on soil soaked with 150mg/l Basta herbicide (glufosinate-ammonium, Bayer CropScience) and confirmed by PCR. Plants were checked for fluorescence using an Olympus IX70 microscope equipped with a Fluroview 300 confocal laser scanning unit. RLP30-YFP-HA fluorescence was excited with a 488nm argon laser and fluorescence detected between 510nm and 530nm (Wang et al., 2008).

*RLP30* cDNA was also cloned in the same way into the gateway compatible binary vector pEarleyGate100 (Earley et al., 2006) using LR clonase (Invitrogen). This resulted in a plasmid (*RLP30<sub>cDNA</sub>*) where *RLP30* was driven by the CaMV 35S promoter without any fusion for complementation study. Similarly *RLP30* genomic DNA was cloned into the vector pEarleyGate100 where the gene was driven by the native promoter. Both constructs were also transformed into the *rlp30-1* and the transgenic lines were selected using Basta and confirmed by PCR.

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