

Supplemental data Ellendorff et al.: RNA silencing is required for Arabidopsis defense against *Verticillium* wilt disease

Table S1. Conditional phenotype assays for *sgs1-1*, *sgs2-1* and *sgs3-1* mutants.

Figure S1. Typical symptoms of Arabidopsis *sgs2-1* mutants upon inoculation with plant pathogenic *Verticillium* species.

Figure S2. Quantification of symptom development at 20 days post inoculation shown as ratio of diseased rosette leaves with standard deviation.

Fig. S3. Salicylic acid-induced *PR-1* expression in Arabidopsis gene silencing mutants.

Table S1. Conditional phenotype assays for *sgs1-1*, *sgs2-1* and *sgs3-1* mutants

Pathogens			
Kingdom	Pathogen Species	Strain	Concentration
fungi	<i>Alternaria brassicicola</i>	MUCL20297	10 ⁶ spores/mL
	<i>Botrytis cinerea</i>	(Brouwer et al., 2003)	10 ⁶ spores/mL
	<i>Fusarium oxysporum</i> f.sp. <i>raphani</i>	815	10 ⁶ budcells/mL
	<i>Plectosphaerella cucumerina</i>	(Thomma et al., 2000)	10 ⁶ spores/mL
	<i>Verticillium albo-atrum</i>	VA1 ^{b)}	10 ⁶ spores/mL
		CBS451.88 ^{b)}	10 ⁶ spores/mL
	<i>Verticillium dahliae</i>	JR2	10 ⁶ spores/mL
		St12.01 ^{b)}	10 ⁶ spores/mL
	<i>Verticillium longisporum</i>	VI 43 ^{b)}	10 ⁶ spores/mL
bacteria	<i>Pseudomonas syringae</i> pv. <i>tomato</i>	DC3000	OD 0.3
	<i>Pst AvrRpm1</i> ^{a)}	DC3000	OD 0.3
	<i>Pst AvrRpt2</i> ^{a)}	DC3000	OD 0.3
	<i>Pst AvrRps4</i> ^{a)}	DC3000	OD 0.3
Hormones			
Hormones	Agents	Hormone Assay	Hypocotyl Alteration
auxin	2,4-D: 2,4-dichlorophenoxy acetic acid	0,1 µM 1 µM	5 µM
cytokinin	6-BA: 6-benzylaminopurine	1 µM	
gibberellic acid	GA: gibberellic acid	1µM 20 µM	20 µM
ethylene	ACC: 1-aminocyclopropane-1-carboxylic acid	1 µM	0,5 µM 10 µM
brassinolide	EBL: epibrassinolide	1 µM	1 µM
jasmonate	MeJA: methyl-jasmonate	1 µM	
abscisic acid	ABA: abscisic acid	0,5 µM	
Abiotic Stress			
Stress Types	Agents	Concentration	
salt stress	sodium chloride	100 mM	
		150 mM	
	lithium chloride	20 mM	
		30 mM	
osmotic stress	mannitol	150 mM	
		200 mM	
reactive oxygen species	hydrogen peroxide	3.3 mM	
		6.7 mM	
		2.0 µM	
heavy metal	paraquat	2.0 µM	
	cadmium chloride	85 µM	

a) *Pst*, *Pseudomonas syringae* pv. *tomato*.

b) These pathogens were only used on *sgs2-1* and Col-0 plants.

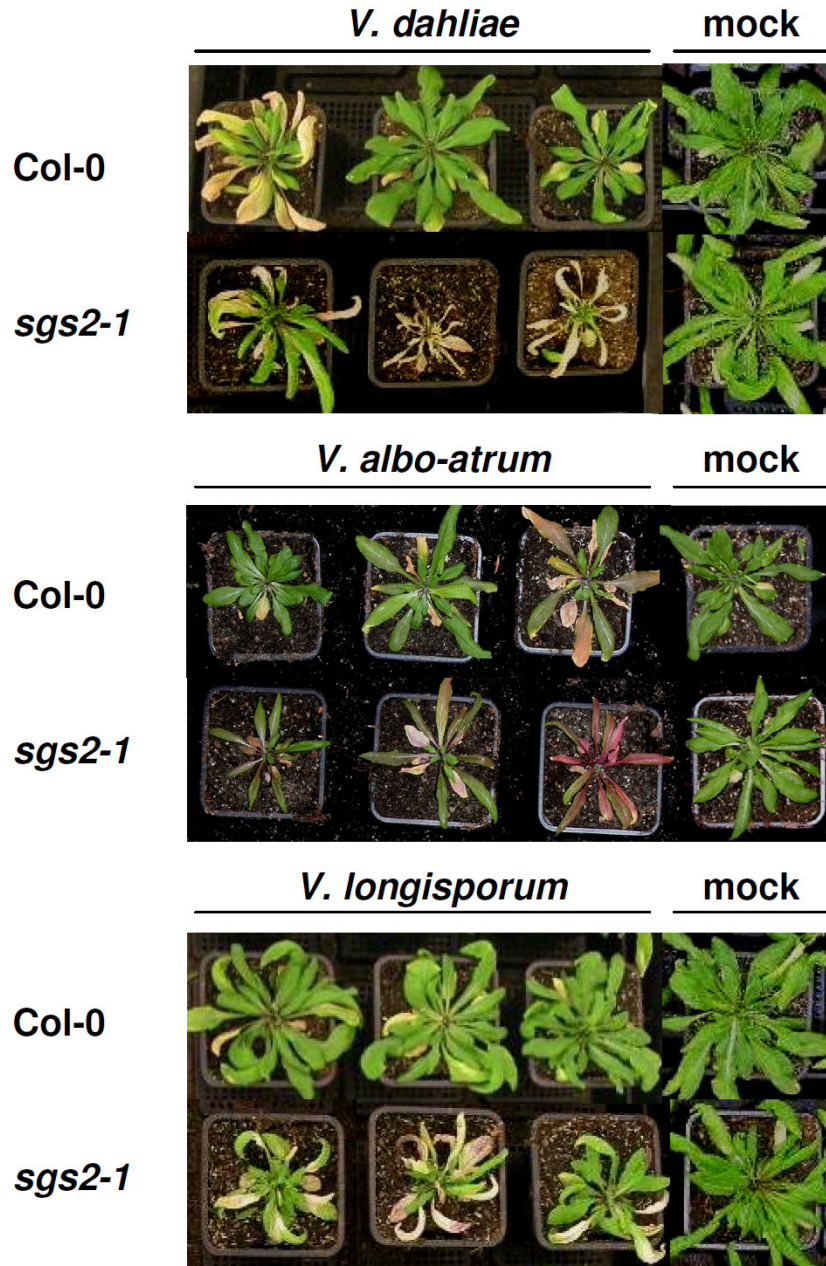


Figure S1. Typical symptoms of *Arabidopsis sgs2-1* mutants upon inoculation with plant pathogenic *Verticillium* species. The mutant *sgs2-1* and the corresponding wild type (Col-0) were inoculated with *V. dahliae* strain ST12.01 (A), *V. albo-atrum* strain CBS451.88 (B), and *V. longisporum* strain VI43 (C). The *Verticillium*-inoculated *sgs2-1* mutant shows enhanced symptom development upon inoculation with any of these *Verticillium* strains, including more severe stunting, wilting, anthocyanin accumulation and tissue necrosis, when compared with Col-0 plants at three weeks post inoculation.

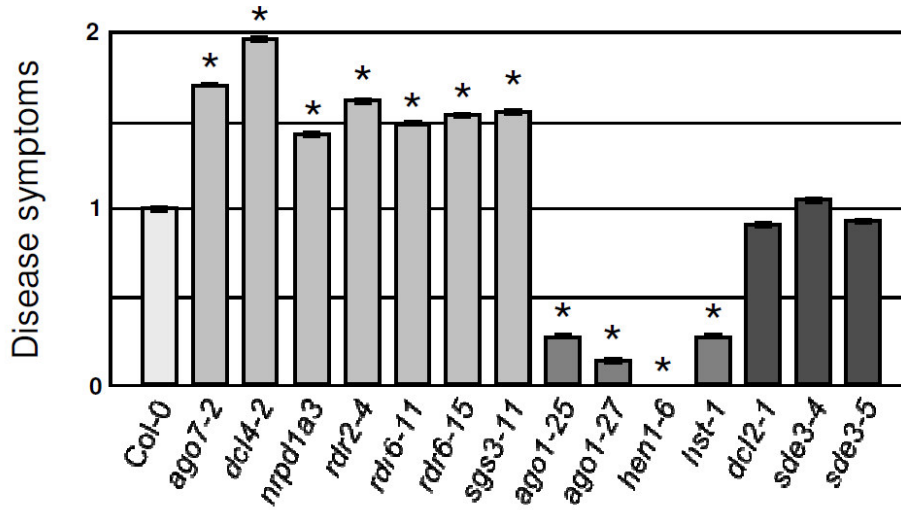


Figure S2. Quantification of symptom development at 20 days post inoculation shown as ratio of diseased rosette leaves with standard deviation. The ratio of diseased rosette leaves for Col-0 is set to one. Asterisks indicate significant differences when compared with the wild type Col-0 ($P < 0.05$).

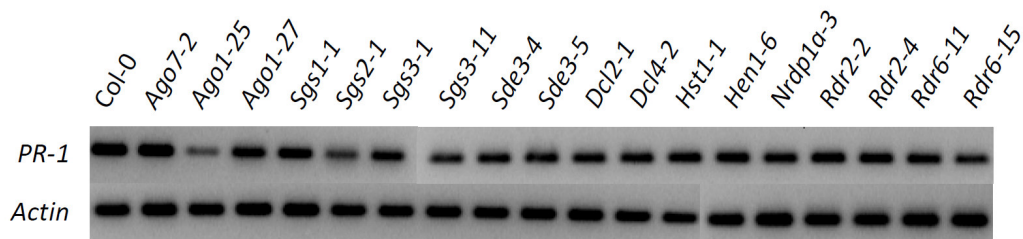


Fig. S3. Salicylic acid-induced *PR-1* expression in Arabidopsis gene silencing mutants. Wild type Columbia-0 (Col-0) and gene silencing mutants were treated with 2 mM salicylic acid and *PR-1* expression was analyzed with reverse transcription PCR after 24 hours. Equal loading of cDNA samples was verified by amplification of actin transcripts.