

Figure S1. Performance of *A. thaliana* wildtype Col-0 and *VaCRK1*, *VaCRK3*, and *VaCRK4* overexpression lines following inoculation with *B. cinerea*. (A) Phenotype of *A. thaliana* wildtype Col-0 and three overexpression lines (OE1, OE2, and OE3) of *VaCRK1*, *VaCRK3*, and *VaCRK4* genes after inoculation with *B. cinerea*. (B) Relative disease index of *A. thaliana* wildtype Col-0 and OE lines of *VaCRK1*, *VaCRK3*, and *VaCRK4* genes. (C) RT-qPCR analysis of relative fungal biomass in *A. thaliana* wildtype Col-0 and OE lines of *VaCRK1*, *VaCRK3*, and *VaCRK4* genes. Error bars represent the standard error of the mean of three independent replicates.

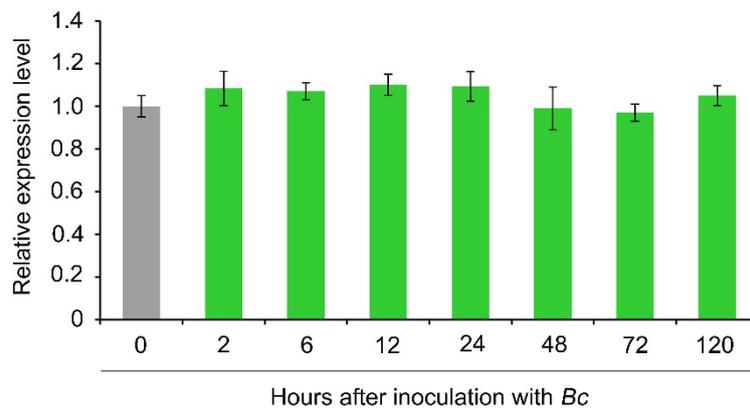


Figure S2. Expression analysis of *AtCRK2* in *A. thaliana* wildtype Col-0 after inoculation with *B. cinerea*. Error bars represent the standard error of the mean of three independent biological replicates. *B. cinerea* (*Bc*).

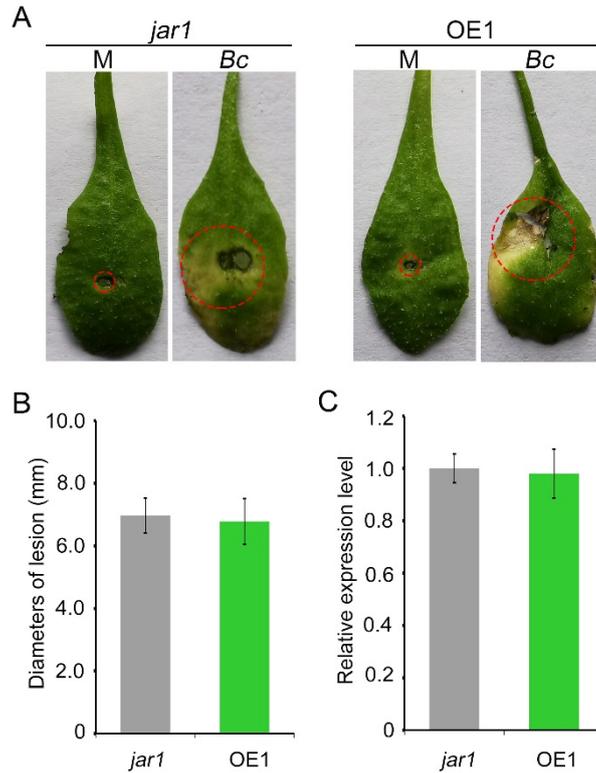


Figure S3. *VaCRK2* cannot mediate resistance to *B. cinerea* in *A. thaliana* mutant *jar1*. (A) Phenotype of *A. thaliana* mutant *jar1* and *VaCRK2* overexpression line 1 (OE1) after inoculation with *B. cinerea*. (B) Relative disease index of *A. thaliana* mutant *jar1* and OE1 line. (C) RT-qPCR analysis of relative fungal biomass in *A. thaliana* mutant *jar1* and OE1 line. Error bars represent the standard error of the mean of three independent replicates, asterisks (**) indicate significant difference at $P < 0.01$ (Student's t-tests). Mock (M), *B. cinerea* (Bc).

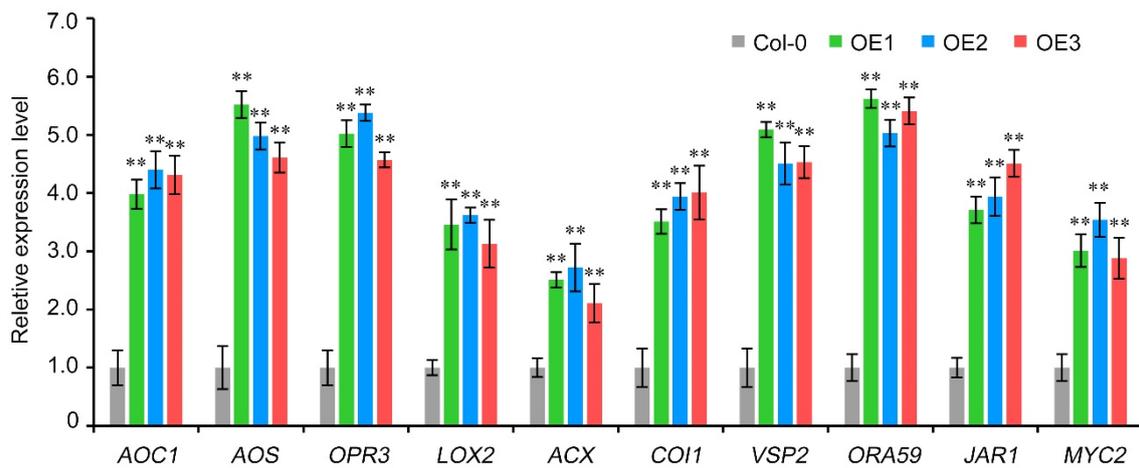


Figure S4. JA signaling pathway-related genes expression pattern in *A. thaliana* wildtype Col-0 and *VaCRK2* overexpression lines (OE1, OE2, and OE3) after inoculation with *B. cinerea*. Error bars represent the standard error of the mean of three independent replicates, asterisks (**) indicate significant difference at $P < 0.01$ (Student's t-tests). *A. thaliana* *APT1* was used as the internal control.

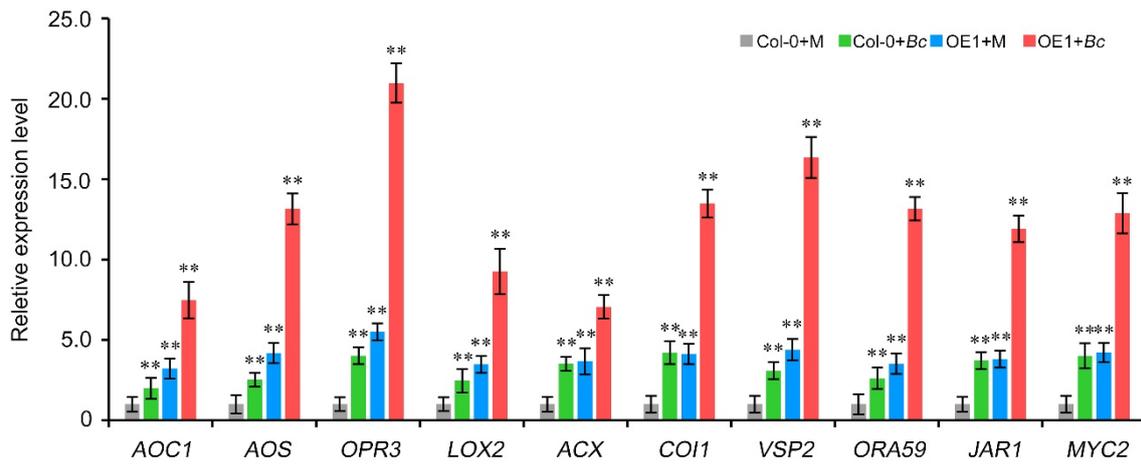


Figure S5. JA signaling pathway-related genes expression pattern in *A. thaliana* wildtype Col-0 and *VaCRK2* overexpression line1 (OE1) before and after inoculation with *B. cinerea*. Error bars represent the standard error of the mean of three independent biological replicates, and asterisks (**) indicate significant difference at $P < 0.01$ (Student's t-tests). Mock (M), *B. cinerea* (Bc).

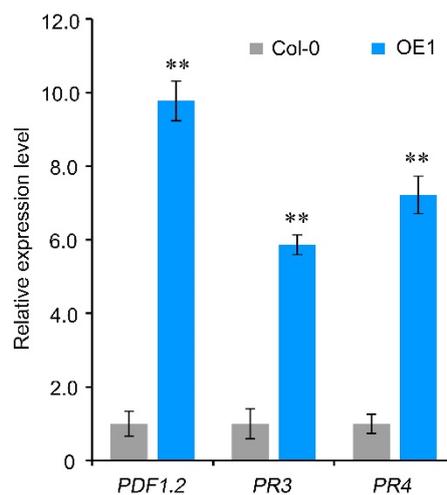


Figure S6. Expression analysis of JA signaling pathway PR genes (*PDF1.2*, *PR3*, and *PR4*) in *A. thaliana* wildtype Col-0 and *VaCRK2* overexpression line 1 (OE1) after inoculation with *B. cinerea*. Error bars represent the standard error of the mean of three independent biological replicates, and asterisks (**) indicate significant difference at $P < 0.01$ (Student's t-tests). *A. thaliana* *APT1* was used as the internal control.

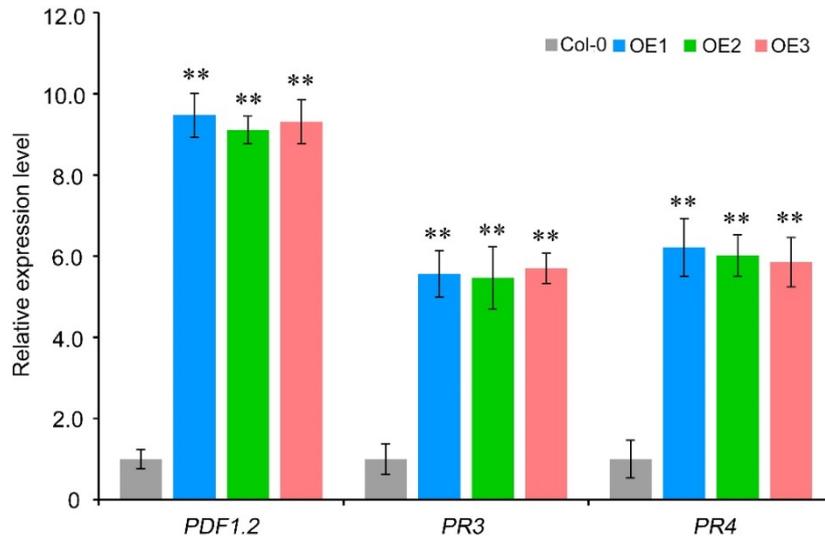


Figure S7. Expression analysis of JA signaling pathway PR genes (*PDF1.2*, *PR3*, and *PR4*) in wildtype Col-0 and *VaCRK2* overexpression lines (OE1, OE2, and OE3) after inoculation with *B. cinerea*. Error bars represent standard error of the mean of three independent biological replicates, and asterisks (**) indicate significant difference at $P < 0.01$ (Student's t-tests).

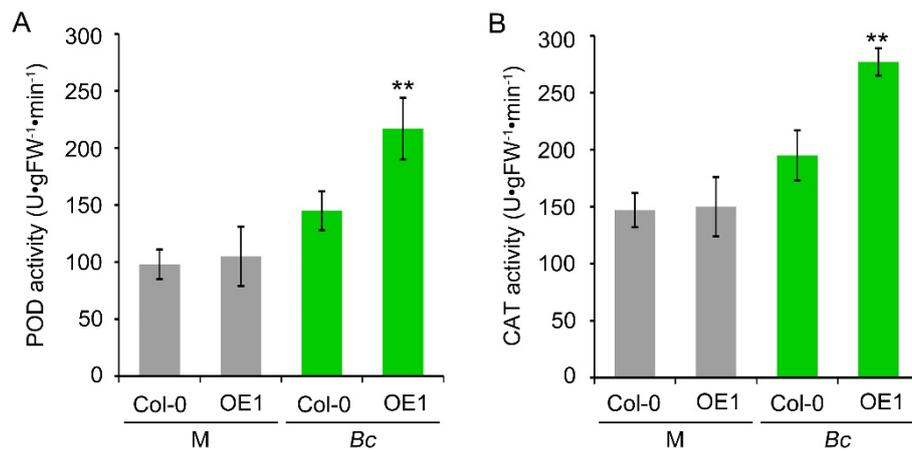


Figure S8. Detection of the peroxidase (POD) and catalase (CAT) enzyme activity in *A. thaliana* wildtype Col-0 and *VaCRK2* overexpression line 1 (OE1) after inoculation with *B. cinerea*. Error bars represent the standard error of the mean of three independent biological replicates, and asterisks (**) indicate significant difference at $P < 0.01$ (Student's t-tests). Mock (M), *B. cinerea* (Bc).