

Supplemental Data for:

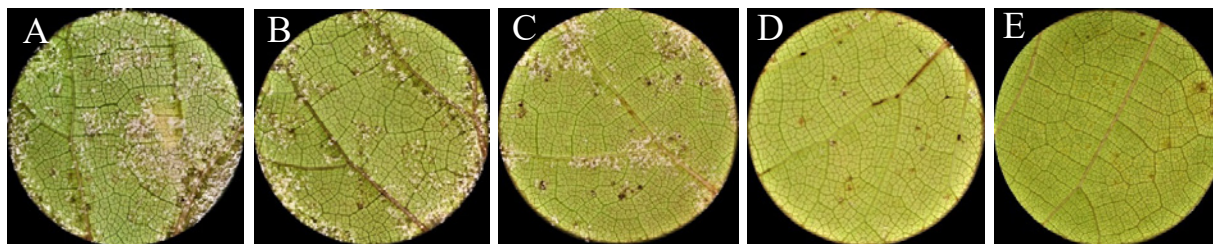
Bhattarai G, Fennell A, Londo JP, Coleman C and Kovacs LG. 2021.

A novel grape downy mildew resistance locus from *Vitis rupestris*. Am J Enol Vitic 72:12-20. doi: 10.5344/ajev.2020.20030.

Supplemental File R-script to plot recombination fraction and logarithm of odds (LOD) threshold.

##Broman KW, Wu H, Sen S, Churchill GA (2003) R/qtl: quantitative trait locus (QTL) mapping in experimental crosses. Bioinformatics 19:889-890.

```
##Copy both male and female genotype/phenotype files in the same folder and set it as a working directory
setwd("G:/Folder name with male and female genotype/phenotype files")
##Install and open package "qtl" in R
install.packages("qtl")
library(qtl)
##Open genotype/phenotype file in R with "read.cross" function
##For male parent
Male<-read.cross(format = "csv",file = "Input file name.csv",genotypes = c("nn","np"),alleles = c("n","p"),na.strings
= c("--","NA"))
##Jitter the map
Male<-jittermap(Male)
##Calculate genotype probability
Male<-calc.genoprob(Male,step = 1,map.function = "kosambi")
##For female parent
Female<-read.cross(format = "csv",file = "Input file name.csv",genotypes = c("ll","lm"),alleles =
c("l","m"),na.strings = c("--","NA"))
##Jitter the map
Female<-jittermap(Female)
##Calculate genotype probability
Female<-calc.genoprob(Female,step = 1,map.function = "kosambi")
##Estimate recombination fraction
est.rf(Male) ##For male parent
est.rf(Female) ##For female parent
##Plot a recombination fraction and LOD plot
plotRF(Male) ##For male parent
plotRF(Female) ##For female parent
```



Supplemental Figure 1 Leaf disk assay based on OIV descriptors 452-1 (International Organization of Vine and Wine). Panels A, B, C, D, and E show examples of very low, low, medium, high, and very high level of resistance, where 50% or more, ~20%, 10%, >5%, and none of the leaf disk area was covered by sporangiophores, respectively, seven days postinoculation. Scores assigned to the levels of resistance depicted in panels A, B, C, D, and E were 1, 3, 5, 7, and 9, respectively.