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Detection and partial molecular characterization of isolates of *Grapevine leafroll-associated virus 4* and *Grapevine rupestris vein feathering virus*

(Detecção e caracterização molecular parcial de isolados de *Grapevine leafroll-associated virus 4* e *Grapevine rupestris vein feathering virus*)

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Resumo

Reductions in productivity and quality of grapes and shortening of the productive life of the vineyard are damages caused by grapevine viruses. The aim of this work was to detect and partially characterize two isolates of grapevine viruses. Brazilian isolates of *Grapevine leafroll-associated virus 4* (GLRaV-4, *Closteroviridae*, *Ampelovirus*) and *Grapevine rupestris vein feathering virus* (GRVFV, *Tymoviridae*, *Marafivirus*) were detected by RT-PCR and the DNA fragments of these viruses were RT-PCR-amplified, cloned, sequenced and aligned. The nucleotide (302 nt of partial HSP70) and the amino acid (100 aa) sequences of the RB (GenBank accession code KC202814) and ME (KC202815) isolates of GLRaV-4 showed 99% of nucleotide identity when compared with other GLRaV-4 isolates from GenBank. The nucleotide (474 nt of partial coat protein) and the amino acid (158 aa) sequences of the MER (KC815703) and SEM (KC815704) isolates of GRVFV showed 87% of nucleotide identity when compared with other two GRVFV sequences from GenBank (AY706994, AY128949). GLRaV-4 and GRVFV were detected by TaqMan real-time RT-PCR respectively in 75% and 8% out of 101 samples of different cultivars from the Brazilian Northeastern region. In Brazil, GLRaV-4 and GRVFV are associated with grapevine leafroll complex and with *Tymoviridae* grapevine infecting viruses, respectively, while other grapevine leafroll viruses (GLRaV-1, GLRaV-2, GLRaV-3, GLRaV-5 and GLRaV-6), and grapevine fleck and related viruses (*Grapevine fleck virus*, GFkV) had already been detected in grapevines.

Apoio: Embrapa