



First report of grapevine virus L infecting grapevine in Korea

Si-Hong Kim¹ · Jae-Yun Heo¹

Received: 16 November 2021 / Accepted: 7 January 2022 / Published online: 17 January 2022
© The Author(s) under exclusive licence to Società Italiana di Patologia Vegetale (S.I.Pa.V.) 2022

Keywords GVL · RT-PCR · Viral disease · *Vitis*

Grapevine virus L (GVL) is a new member of the genus *Vitivirus* that has been found in Argentina, the United States, Tunisia, and Turkey, suggesting that it is widely distributed worldwide. A high incidence of other well-known vitiviruses such as grapevine virus A (GVA) and grapevine virus B (GVB) have been reported in Korea (Kim et al. 2021), but no information on GVL is available. In October 2020, six grapevine samples of cv. Shine Muscat displaying virus-like disease symptoms were collected from six different vineyards in Gangneung, Korea. The presence of GVL was assessed by reverse transcription polymerase chain reaction (RT-PCR) with the primer pair designed by Ben Amar et al. (2020). Two samples tested positive for GVL. To confirm the occurrence of GVL, another virus-specific primer pair GVL-CP-F2 (5'-CAAGATACCAAACCTTCGTGTC-3') and GVL-CP-R2 (5'-GCAGTCCTCAGAAATAGGTAA-3') was used in RT-PCR (Diaz-Lara et al. 2019). Amplicons of the expected size (327 bp) were obtained for both samples and directly sequenced using conventional Sanger methodology. Sequences were deposited in GenBank as accession numbers OL435945 and OL435946. BLAST analyses showed 98.2 and 97.9% nucleotide sequence identity between the Korean GLV isolates and isolate rs from Argentina (MH248020.1). High similarity of GVL sequences from the same grape cultivar in two different Gangneung vineyards suggests that the

Korean GVL infections may have originated from a common source, possibly the supplier of the original Shine Muscat planting material. To the best of our knowledge, this is the first GVL infection detected in Korea.

Funding This work was supported by the Korea National Research Foundation (NRF) grant funded by the Korean government (MSIT) (No. 2020R1F1A1073922).

References

- Ben Amar A, Daldoul S, Zemni H, Wetzel T, Olmos A, Ruiz-García AB (2020) First report of Grapevine virus L in grapevine in Tunisia. *Plant Dis* 104:12
- Diaz-Lara A, Brisbane RS, Aram K, Golino D, Al Rwahnih M (2019) Detection of new vitiviruses infecting grapevine in California. *Arch Virol* 164:2573–2580
- Kim SH, Jeong SH, Heo JY (2021) Incidence of 14 grapevine viruses in Korean vineyards. *Not Bot Horti Agrobot Cluj Napoca* 49:12490

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

✉ Jae-Yun Heo
jyheo@gwnu.ac.kr
Si-Hong Kim
sihongjang@gmail.com

¹ Department of Plant Science, Gangneung-Wonju National University, Gangneung 25457, Republic of Korea