First report of actinidia virus A and B infecting kiwifruit in Jiangxi province in China

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In recent years, *Actinidia virus A* and *B* (AcVA and AcVB), both of which belong to the genus *Vitivirus* of the family *Betaflexiviridae*, have been reported in New Zealand, South Korea and Hubei, China (Blouin et al. 2012; Cho et al. 2017; Zheng et al. 2014). During investigation on field disease of kiwifruit in June 2018 in Jiangxi Province of eastern China, symptoms of leaf chlorosis, ringspots and deformities were seen, suggesting the presence of a virus. Therefore, testing was carried out for a range of viruses including AcVA and AcVB. Total RNA were extracted from the infected kiwifruit leaves and subjected to RT-PCR for detecting AcVA using primer sets AcVA5F/5R and AcVA CP NTR F/R, and AcVB using primer sets AcVB5F/Viti3'R and AcVB CP NTR F/R (Blouin et al. 2012; Cho et al. 2017), respectively. Primer sets AcVA5F/5R and AcVB5F/Viti3'R target the RNA-binding protein genes of AcVA and AcVB, while primers AcVA CP NTR F/R and AcVB CP NTR F/R amplify their regions covering partial movement protein, full coat protein and partial RNA binding protein genes. Results showed that 100% and 68.6% of the tested samples were infected with AcVA and AcVB, respectively. From AcVA, a 283 bp long sequence of the RNA-binding protein gene (GenBank accession No. MH732945) and a 597 bp long sequence of the complete CP gene (MK729781) were determined, which shared 92.9% and 90.8% homology with the corresponding

sequence of AcVA isolate in New Zealand (JN427014). From AcVB, a 369 bp long sequence of the RNA-binding protein gene (MH732946) and a 597 bp long sequence of the complete CP gene (MK729782) were also determined, and they shared 99.2% and 98.7% homology with the corresponding sequence of New Zealand AcVB isolate (JN427015). The 369 bp sequence was also compared with the corresponding sequence of AcVB isolate (accession No. KJ696778) in Hubei Province, which is adjacent to Jiangxi Province, and they shared only 88.1% homology, and the homology between Jiangxi and Hubei isolates is less than that between Jiangxi and New Zealand isolates. To our knowledge, this is the first report of AcVA and AcVB infecting kiwifruit in Jiangxi province in China.

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