

**Supplementary Table S1.** Accession numbers, hosts and origins of Grapevine virus A isolates/strains used in this study for partial ORF5 analysis.

| Isolate           | Accession no. | Host  | origin |
|-------------------|---------------|---|--------|
| T6 -Torkaman      | MG551301      | <i>Vitis vinifera</i>                         | Iran   |
| UC -Urmia         | MG551302      | <i>Vitis vinifera</i>                         | Iran   |
| VJ8 -Varjoy       | MG551303      | <i>Vitis vinifera</i>                         | Iran   |
| UN1 -Nazloo       | MG551304      | <i>Vitis vinifera</i>                         | Iran   |
| CYL3-siloo        | MG551305      | <i>Vitis vinifera</i>                         | Iran   |
| MR Maragheh       | MG551306      | <i>Vitis vinifera</i>                         | Iran   |
| BEN1 khaneh beig  | MG551307      | <i>Vitis vinifera</i>                         | Iran   |
| NR Narjabad       | MG551308      | <i>Vitis vinifera</i>                         | Iran   |
| IR-S7             | GU084163      | <i>Vitis vinifera</i>                         | Iran   |
| IR-G1             | GU084164      | <i>Vitis vinifera</i>                         | Iran   |
| IR-BV             | GU084167      | <i>Vitis vinifera</i>                         | Iran   |
| GVD               | Y07764        | <i>Nicotiana occidentalis</i>                 | Italy  |
| Is 151            | X75433        | <i>Nicotiana benthamiana</i>                  | Italy  |
| isolate="1-19-1-1 | HQ671645      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| isolate 1-21-5-1  | HQ671650      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| isolate 2-9-7-9   | HQ671657      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| isolate 12-3-7-4  | HQ671638      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| 4-7-9-8           | HQ671666      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| 8-21-3-3          | HQ671644      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| 12-3-7-6          | HQ671628      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| 9-29-9-1          | HQ671641      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| 10-29-5-5         | HQ671635      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| 10-26-4-2         | HQ671632      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| 2-3-6-6           | HQ671653      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| 2-4-4-7           | HQ671648      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| 9-29-8-2          | HQ671640      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| 3-30-9-1          | HQ671663      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |
| 1-21-5-3          | HQ671651      | <i>Vitis vinifera</i> x <i>Vitis labrusca</i> | China  |

|           |          |  |              |
|-----------|----------|--|--------------|
| 1-27-8-5  | HQ671659 | <i>Vitis vinifera</i> L. x <i>Vitis labrusca</i> | China        |
| 1-26-7-5  | HQ671655 | <i>Vitis vinifera</i> L. x <i>Vitis labrusca</i> | China        |
| 3-3-7-3   | HQ671658 | <i>Vitis vinifera</i> x <i>Vitis labrusca</i>    | China        |
| 3-4-4-4   | HQ671627 | <i>Vitis vinifera</i> x <i>Vitis labrusca</i>    | China        |
| 3-10-5-8  | HQ671652 | <i>Vitis vinifera</i> x <i>Vitis labrusca</i>    | China        |
| 3-16-8-5  | HQ671661 | <i>Vitis vinifera</i> x <i>Vitis labrusca</i>    | China        |
| 4-2-9-3   | HQ671665 | <i>Vitis vinifera</i> x <i>Vitis labrusca</i>    | China        |
| GTR1SD-1  | DQ855081 | <i>Vitis vinifera</i> cv. Shiraz                 | South Africa |
| P163-M5   | DQ855082 | <i>Vitis vinifera</i> cv. Cinsaut Blanc          | South Africa |
| KWVMo4-1  | DQ855083 | <i>Vitis vinifera</i> cv. Merlot                 | South Africa |
| BMo32-1   | DQ855087 | <i>Vitis vinifera</i> cv. Merlot                 | South Africa |
| JP98      | AF441235 | <i>Nicotiana benthamiana</i>                     | South Africa |
| GTR1-2    | DQ855086 | <i>Vitis vinifera</i> cv. Shiraz                 | South Africa |
| 92/778    | AF441234 | <i>Nicotiana benthamiana</i>                     | South Africa |
| GTG11-1   | DQ855084 | <i>Vitis vinifera</i> cv. Shiraz                 | South Africa |
| MSH18-1   | DQ855085 | <i>Vitis vinifera</i> cv. Shiraz                 | South Africa |
| I327-5    | KC962564 | <i>Vitis vinifera</i> cv. Shiraz                 | South Africa |
| GVA       | AY244516 | <i>Nicotiana benthamiana</i>                     | South Africa |
| isolate 3 | KF594433 | <i>Vitis vinifera</i> Frankovka variety          | Macedonia    |
| 4         | KF594434 | <i>Vitis vinifera</i> Vranec variety             | Macedonia    |
| 2         | KF594432 | <i>Vitis vinifera</i> Vranec variety             | Macedonia    |
| TRAJ2-BR  | KX828703 | <i>Vitis vinifera</i> cv. Trajadura              | Brazil       |
| PA3       | AF007415 | <i>Nicotiana benthamiana</i>                     | Israel       |
| 32PA      | KF029735 | <i>Vitis vinifera</i>                            | Poland       |
| 7PA       | KF029733 | <i>Vitis vinifera</i>                            | Poland       |
| 23PA      | KF029734 | <i>Vitis vinifera</i>                            | Poland       |
| 92PA      | KF029736 | <i>Vitis vinifera</i>                            | Poland       |
| IH11      | JN565032 | <i>Vitis vinifera</i>                            | Poland       |
| IH8       | JN565031 | <i>Vitis vinifera</i>                            | Poland       |

**Supplementary Table S2.** Accession numbers, hosts and origins of grapevine virus A isolates/strains used for phylogeny marker analysis in this study.

| Isolate         | Accession no. | Host  | origin       |
|-----------------|---------------|---|--------------|
| NC_003604_IS151 | NC_003604     | <i>Vitis vinifera</i>                                 | Italy        |
| KC962564_1327_5 | KC962564      | <i>Vitis vinifera</i> cv. Shiraz                      | South Africa |
| GTR1-1          | DQ787959      | <i>Vitis vinifera</i> cv. Shiraz                      | South Africa |
| GTR1SD-1        | DQ855081      | <i>Vitis vinifera</i> cv. Shiraz                      | South Africa |
| P163-M5         | DQ855082      | <i>Vitis vinifera</i> cv. Cinsaut Blanc               | South Africa |
| KWVMo4-1        | DQ855083      | <i>Vitis vinifera</i> cv. Merlot                      | South Africa |
| GTR1-2          | DQ855086      | <i>Vitis vinifera</i> cv. Shiraz                      | South Africa |
| BMo32-1         | DQ855087      | <i>Vitis vinifera</i> cv. Merlot                      | South Africa |
| P163-1          | DQ855088      | <i>Vitis vinifera</i> cv. Cinsaut Blanc clone P163/12 | South Africa |
| TRAJ2-BR        | KX828703      | <i>Vitis vinifera</i> cv. Trajadura                   | Brazil       |
| VB-108          | MF979533      | <i>Vitis vinifera</i> cv. Babica                      | Croatia      |
| P70             | MG925333      | <i>Vitis vinifera</i> cv. Pinot Noir                  | France       |
| TT2017_74_47    | MK404720      | <i>Vitis vinifera</i> cv. Pinot Noir                  | France       |
| TT2017_74_53    | MK404721      | <i>Vitis vinifera</i> cv. Pinot Noir                  | France       |
| TT2017_79       | MK404722      | <i>Vitis vinifera</i> cv. Pinot Noir                  | France       |
| PA3             | AF007415      | <i>Vitis vinifera</i>                                 | Israel       |
| 3138-03         | JX559641      | <i>Vitis vinifera</i>                                 | Canada       |
| GVD-MD25        | MF774336      | <i>Vitis vinifera</i> cv. Malvasia Dubrovacka         | USA          |