

# Validation report

## DAS-ELISA GPGV

Article No.: 120778 (GPGV Complete kit 96) / 120776 (GPGV Complete kit 480) / 120773 (GPGV Complete kit 960)

### General information:

|                 |                                   |
|-----------------|-----------------------------------|
| Target Pathogen | GPGV (Grapevine pinot gris virus) |
| Genus           | <i>Trichovirus</i>                |
| Method          | DAS-ELISA                         |

### Technical information:

|                |   |
|----------------|---|
| Antibodies     | Polyclonal antibodies developed against a recombinant coat protein of GPGV.   |
| Sampling       | Leaf samples: 1:10 (w/v) in extraction buffer "Grapevine"<br>Bark scrapings: 1:10 (w/v) in extraction buffer "Grapevine"<br>Testing: dormant canes and young shoots |
| Controls       | Negative control (NC): lyophilized extracts from healthy plants<br>Positive control (PC): lyophilized GPGV infected plant extracts                                  |
| Working volume | 200 µl / well   |

### Host matrix:

|                         |  |
|-------------------------|--|
| Tested plant material   | Leaf (petiole, vein), bark (phloem) from dormant canes |
| Tested species infected | <i>Vitis vinifera</i> (Grapevine)                      |

### Specificity:

|  |  |
|--|--|
| Analytical Specificity   | 100%   |
| Number of tested samples from target organism (True Positives) | >100   |
| Diagnostic Specificity   | 100%   |
| Number of tested samples non-target organism (True Negatives)  | 76   |
| Detected isolates / geographic regions (Inclusivity)           | GPGV 41807 (Switzerland, Grapevine)<br>GPGV 41793 (Switzerland, Grapevine)<br>GPGV 41806 (Switzerland, Grapevine)<br>GPGV 41804 F (Switzerland, Grapevine)<br>GPGV 41804 PG (Switzerland, Grapevine)<br>GPGV 42546 (Switzerland, Grapevine)<br>GPGV 9051 (Switzerland, Grapevine)<br>GPGV 11971 (Switzerland, Grapevine)<br>GPGV 10498 (Switzerland, Grapevine)<br>GPGV 11/1 (Switzerland, Grapevine)<br>GPGV 17/5 (Switzerland, Grapevine)<br>GPGV 24/19 (Switzerland, Grapevine)<br>GPGV 3/2 (Germany, Grapevine)<br>GPGV 4/1 (Germany, Grapevine)<br>GPGV 5/14 (Germany, Grapevine)<br>GPGV 7/14 (Germany, Grapevine)<br>GPGV 8/18 (Germany, Grapevine)<br>GPGV 9/6 (Germany, Grapevine)<br>GPGV 6/2 (Germany, Grapevine) |

|  |  |
|--|--|
|  | GPGV 6/23 (Germany, Grapevine)<br>GPGV 6/38 (Germany, Grapevine)<br>GPGV Beb 11 (France, Grapevine)<br>GPGV W 103 (France, Grapevine)  |
| Cross reaction with (Exclusivity)            | None known   |
| No cross reaction tested with (Exclusivity)  | ArMV (Arabidopsis mosaic virus)<br>BCMV (Bean common mosaic virus)<br>BCMVN (Bean common mosaic necrosis virus)<br>CGMMV (Cucumber green mottle mosaic virus)<br>GLRaV-2 (Grapevine leafroll-associated virus 2)<br>GLRaV-4 strain 6 (Grapevine leafroll-associated virus 4 strain 6)<br>GVA (Grapevine virus A)<br>MCMV (Maize chlorotic mottle virus)<br>MiLBVV (Mirafiori lettuce big-vein virus)<br>SCMV (Sugarcane mosaic virus)<br>SMV (Soybean mosaic virus)<br>TMV (Tobacco mosaic virus)<br>Xcp ( <i>Xanthomonas campestris</i> pv. <i>pelargonii</i> ) |
| No matrix effect observed with (Selectivity) | <i>Citrullus lanatus</i> (Watermelon)<br><i>Cucumis sativus</i> (Cucumber)<br><i>Cucurbita</i> spp. (Squash)<br><i>Cucurbita pepo</i> (Zucchini)<br><i>Geranium</i> spp. (Geranium)<br><i>Vitis vinifera</i> (Grapevine)   |

**Sensitivity:**

|                                   |   |
|-----------------------------------|---|
| Diagnostic Sensitivity            | 100%  |
| Analytical Sensitivity / LoD      | 10 <sup>-3</sup> dilution of infected tissue (pathogen titer unknown)   |
| Sensitivity on host matrix        | GPGV on leaves of grapevine: 1:6'250 dilution<br>GPGV on canes of grapevine: 1:6'250 dilution<br>Pathogen titer unknown |
| Other sensitivity characteristics | -   |

**Validation:**

|                        |  |
|------------------------|--|
| Internal validation    | 2018 (last internal validation)  |
| External validation    | 2018 (Switzerland)<br><br>2 interlaboratory comparisons in 2017 with laboratories from Switzerland and France.<br><br>2 proficiency tests (PT) in 2018 with laboratories from Germany, Switzerland, and France   |
| Reproducibility        | 100%   |
| Repeatability          | 100%   |
| Validation information | Internally, the reagents have been validated with the BIOREBA isolate collection.<br><br>A proficiency test was conducted on healthy and GPGV-infected grapevine leaves between BIOREBA and 3 other laboratories (Germany, Switzerland, France) in 2018. |

A proficiency test was conducted on healthy and GPGV-infected grapevine canes between BIOREBA and 5 other laboratories (Germany, Switzerland) in 2018.

Validation release Date:  
October, 11<sup>th</sup>, 2022

QC manager:



Version: 1 – 11.10.2023.