

# Validation report

## DAS-ELISA GLRaV-2

Article No.: 120878 (GLRaV-2 Complete kit 96) / 120876 (GLRaV-2 Complete kit 480) / 120873 (GLRaV-2 Complete kit 960)

### General information:

Target Pathogen	GLRaV-2 (Grapevine leafroll-associated virus 2)
Genus	<i>Closterovirus</i>
Method	DAS-ELISA

### Technical information:

Antibodies	Complementary polyclonal and monoclonal antibodies developed against different GLRaV-2 isolates. <u>Coat</u> : PN lineage isolate (monoclonal) and PV20 lineage isolate (polyclonal) <u>Conjugate</u> : isolate from a Pinot Noir grapevine in Oregon (polyclonal) and PV20 lineage isolate (monoclonal)
Sampling	Leaf samples: 1:10 (w/v) in extraction buffer "Grapevine" Bark scrapings: 1:10 (w/v) in extraction buffer "Grapevine"
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized GLRaV-2 infected plant extracts
Working volume	200 µl / well

### Host matrix:

Tested plant material	Mature leaves, petioles, veins and 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)	>100
Detected isolates / geographic regions (Inclusivity)	Chasselas 8/22 (Switzerland, Grapevine) #973 PN lineage (Switzerland, <i>N. benth.</i> ) #1295 PV lineage (Switzerland, <i>N. benth.</i> ) Chasselas 9054 (Switzerland, Grapevine) Chasselas 9055 (Switzerland, Grapevine) Malvoisie 8763-68 (Switzerland, Grapevine) Gamay 1295 42447 PV20 lineage (Switzerland, Grapevine) GRdL 1295 30575 (Switzerland, Grapevine) GRdL Gamay 8963-5 BD lineage (Switzerland, Grapevine) 12480-81 (USA, Grapevine) 12478-79 STA 020807 (USA, Grapevine) Z241 St Pierre doré (France, Grapevine)



	Z165 Piquepoul noir (France, Grapevine) Y204 Cape Curren (South Africa, Grapevine) Y229 Henab Turki (Turkey, Grapevine) Y131 Madeleine Angevine (France, Grapevine) TE196 Chardonnay (France) Z127 Cunoise (France, Grapevine) Y210 Dabouki (Israel, Grapevine) M147 Merlot (France, Grapevine) Z122 Bourboulenc (France, Grapevine) V38 Chardonnay (France, Grapevine) AB295 Alicante (France, Grapevine) Z170 Ruby Cabernet (France, Grapevine) 95-167 Malvaia die Bosa (Italy, Grapevine) 96-196 Tempranillo (Spain, Grapevine) 95-177 Italia (Italy, Grapevine) 95-183 Muscat de Samos (Greece, Grapevine) 95-157 Alphonse Lavallée (France, Grapevine) 95-152 Alphonse Lavallée (France, Grapevine) 95-193 Cayetana (Spain, Grapevine) 96-14 Pinot Noir (Germany, Grapevine) 95-184 Grand Noir (Greece, Grapevine) 95-59 Touriga Francesa (Portugal, Grapevine) 95-146 Pinot Noir (France, Grapevine) ARG1 Aramon (USA, Grapevine) Y206 Chaouch Rose (Turkey, Grapevine) 95-50 Alphonse Lavallée (France, Grapevine) 90-190 Napoleon noir (Spain, Grapevine) 95-52 Chatus (France, Grapevine)
<b>Cross reaction with (Exclusivity)</b>	None known
<b>No cross reaction tested with (Exclusivity)</b>	ACLSV (Apple chlorotic leaf spot virus) APMoV (Andean potato mottle virus) ASPV (Apple stem pitting virus) GLRaV-1 (Grapevine leafroll-associated virus 1) GLRaV-3 (Grapevine leafroll-associated virus 3) GLRaV-4 (Grapevine leafroll-associated virus 4) GPGV (Grapevine pinot gris virus) GVA (Grapevine virus A) LYSV (Leek yellow stripe virus) MCMV (Maize chlorotic mosaic virus) MiLBVV (Mirafiori lettuce big-vein virus) OYDV (Onion yellow dwarf virus) PMMoV (Pepper mild mottle virus) PVY (Potato virus Y) SCMV (Sugarcane mosaic virus) SMV (Soybean mosaic virus) TYLCV (Tomato yellow leaf curl virus)
<b>No matrix effect observed with (Selectivity)</b>	<i>Vitis vinifera</i> (Grapevine)

**Sensitivity:**

<b>Diagnostic Sensitivity</b>	100%
<b>Analytical Sensitivity / LoD</b>	10 <sup>-2</sup> – 10 <sup>-3</sup> dilution of infected tissue (pathogen titer unknown)
<b>Sensitivity on host matrix</b>	GLRaV-2 on leaves of grapevine: 1:6'250 dilution



	GLRaV-2 on canes of grapevine: 1:250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

**Validation:**

Internal validation	2004, 2007, 2018
External validation	2007 (Switzerland, France), 2019 (Switzerland, New Zealand, Spain)
Reproducibility	100%
Repeatability	100%
Validation information	Internally, the reagents have been validated with the BIOREBA isolate collection composed of various different samples collected within the last 40 years.

Validation report release Date:  
July, 14<sup>th</sup>, 2022

QC manager:

Version: 2 – 01.09.2023 - Information about sensitivity on host matrix and limit of detection (LoD) added.