

## Product Information: DAS-ELISA

# Grapevine leafroll associated virus 2 (GLRaV-2)

Grapevine leafroll-associated virus 2 (GLRaV-2), formerly named GLRaV IIb (1, 4), is one out of several viruses in the family *Closteroviridae* associated with leafroll diseases occurring on grapevine cultivars grown in Europe, North- and South-America, Africa, Asia and Japan.

### Specificity and sampling instruction

The broad-spectrum reagents contain complementary polyclonal and monoclonal antibodies to different virus isolates. Antibodies used for the coating were made against an isolate of the leafroll diseased Chasselas clone 8/22 (monoclonal) and a PV20 lineage isolate (#1295) from a leafroll diseased vine (polyclonal) (4, 5). Antibodies used for the conjugate were made against an isolate from a Pinot Noir grapevine in Oregon (polyclonal; V. Dolja, personal communication) and a PV20 lineage isolate (#1295) from a leafroll diseased vine (monoclonal) (5) as well as the monoclonal antibody against Chasselas clone 8/22 as used in the coating.

The DAS-ELISA reagents specifically detect GLRaV-2, including isolates from the Red Globe (RG), BD, PN, and PV20 lineages (6).

The concentration of GLRaV-2 in grapevine tissue varies considerably; especially the "Red Globe" can be extremely low – sometimes too low for detection by ELISA. Thus, conscious sample collection is very important: mature leaves and bark (phloem) scrapings from dormant canes are good tissue sources for testing (4). Well-developed «middle-aged» leaves, veins and petioles contain usually more detectable virus than the blades. For testing grapevine, a special extraction buffer «Grapevine» (Art. No. 110123) (3, modified) is used at a ratio of 1:10 (w/v).

The product was developed in cooperation with Agroscope, the Swiss centre of excellence for research in the agriculture and food sector; and the Oregon State University, Department of Botany and Plant Pathology, Corvallis, OR, USA.

### Information on the antibodies

Coating IgG: monoclonal and polyclonal; conjugate: monoclonal and polyclonal

### References

- (1) Boscia, D., Greif, C., Gugerli, P., Martelli, G.P., Walter, B., and Gonsalves, D. 1995. *Vitis* 34:171-175.
- (2) Clark, M.F., and Adams, A. N. 1977. *J. gen. Virol.* 34:475-483.
- (3) Gugerli, P. 1986. In H.U. Bergmeyer: *Methods of Enz. Analysis*. Vol. XI. pp. 474-481.
- (4) Gugerli, P., and Ramel, M.-E. 1993. Extended abstracts 11th Meeting ICVG, Montreux, Switzerland, 6-9 September 1993 (Federal Agricultural Reserch Station of Changins, CH-1260 Nyon, Switzerland), 23-24.
- (5) Besse, S., Balmelli, C., Hofstetter, V., Gugerli, P. 2009. Extended abstracts 16th Meeting ICVG, Dijon, France, 31 August-4 September 2009.
- (6) Jarugula, S., Alabi, O., Martin, R., and Naidu, R. 2010. *Phytopathology*. 100 (7): 698-707.

### Ordering Information

**BIOREBA offers the following formats:**

**Individual ELISA reagents** for 96, 480 or 960 assays: IgG and/or conjugate for the working volume of 200 µl/test/well.

**Reagent sets** for 480 or 960 assays: IgG and conjugate, positive and negative controls, and microtiter plates (F-96) for a working volume of 200 µl/test/well.

**Complete kits** for 96, 480 or 960 assays: All reagents, controls, microtiter plates (F-96), buffers, and substrate necessary for a working volume of 200 µl/test/well.

ELISA buffers, equipment for sample preparation and disposables are also available.

For all Art. No. please refer to our product catalogue or our homepage [www.bioreba.com](http://www.bioreba.com) and for prices and further information on any other product from BIOREBA, please contact your local distributor or our office in Switzerland.

1/1

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Adaptations from last version: Addition of monoclonal antibody to conjugate.