

## Product Information: DAS-ELISA

# Grapevine leafroll-associated virus 4 strain 6 (GLRaV-4 strain 6)

**Synonym: Ampelovirus tetrauitis**

A number of viruses are associated with leafroll disease in grapevine. Grapevine leafroll disease has been associated with yield losses of as much as 20 to 40%. These viruses cause poor color development and non-uniform maturation of fruit in *Vitis vinifera*. Additionally, symptoms may include downward rolling of basal leaves followed by rolling of the leaves near the shoot tips, color change and necrosis in the interveinal portions of the leaves and phloem disruption.

Currently, there are several distinct putative viruses in the family *Closteroviridae* reported to be associated with leafroll disease. These viruses are collectively referred to as grapevine leafroll-associated viruses (GLRaVs).

## Specificity and sampling instruction

The antibodies were made against an isolate of the leafroll diseased Chasselas clone 8/22 (4) and specifically detect GLRaV-4 strain 6, formerly named GLRaV IIa (1) in DAS-ELISA (2). The concentration of GLRaV-4 strain 6 in grapevine tissue varies considerably; thus, conscious sample collection is very important: mature leaves and bark (phloem) scrapings from dormant canes are good tissue sources for testing (4). In well developed «middle-aged» leaves, veins and petioles contain 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.

## Information on the antibodies

Coating IgG: polyclonal; conjugate: monoclonal

## 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., Brugger, J.-J., and Ramel, M.-E. 1997. *Revue suisse Vitic. Arboric. Hortic.* 29:137-142.

## Ordering Information

**BIOREBA offers the following formats:**

**Individual ELISA reagents** for 100, 500 or 1000 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.

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Adaptations from last version: added revised taxonomy of ICTV and assays of individual ELISA reagents.