

Product Information: DAS-ELISA

Grapevine leafroll associated virus 1+3 (GLRaV-1+3)

Leafroll diseases of grapevine are important and occur in all major grape-growing areas worldwide. The virus species GLRaV-1 and GLRaV-3 (both classified in the genus *Ampelovirus*), are the most prevalent ones out of several in the family *Closteroviridae* associated with grapevine leafroll disease (1-8). All common cultivars (e.g. *Vitis vinifera*) as well as interspecific hybrids and rootstocks are infected, even though not all infected vines develop strong symptoms. Yield and quality of the grapevines are affected and losses can be substantial. The viruses are transmitted by grafting and also by insect vectors such as mealybugs (*Pseudococcidae*) and soft scales (*Coccidae*).

Specificity and sampling instruction

These reagents allow in a single test (format DAS-ELISA) the detection of both GLRaV-1 and GLRaV-3. The reagents contain a mixture of complementary monoclonal antibodies to different isolates of GLRaV-1 (1, 2) as well as poly- and monoclonal antibodies developed against purified virus and a recombinant protein of different isolates of GLRaV-3 (1-6, 8). The mixture of these selected antibodies allows a broad-spectrum detection of all scientifically recognized and published GLRaV type 1 and 3 isolates. The reagents have been extensively tested with virus collections from New Zealand, South Africa, Switzerland, and USA.

The DAS-ELISA technique is an efficient method for detecting leafroll viruses in grapevine. However, the concentration of the viruses in grapevine tissue is irregular; it varies according to tissue source and time of the year. Well-developed mature leaves, especially petioles and veins, from the lower part late in the growing season as well as bark (phloem) scrapings from mature canes, are good tissue sources (7). Due to the uneven distribution of the virus in plants, it is advised to take several subsamples from different canes. The special extraction buffer "Grapevine" (0.2 M TRIS, pH 8.2) is used.

The product was developed in cooperation with Agroscope Nyon Switzerland, ARC-Plant Protection Research Institute (PPRI) Pretoria South Africa, Cornell University NYSAES Geneva USA, and New Zealand Institute for Plant & Food Research Ltd, Auckland New Zealand.

References

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- (2) Gugerli, P. Monoclonal antibodies to grapevine leafroll associated closterovirus (unpublished).
- (3) Hu, J.S., and Gonsalves, D., Boscia, D., and Namba, S. 1990. Phytopathology 80:920-925.
- (4) Hu, J.S., Gonsalves, D., and Teliz, D. 1990. J. Phytopathology 128:1-14.
- (5) Ling, K.S., Zhu, H.Y., Jiang, Z.Y., McFerson, J.R., and Gonsalves, D. 1997. 12th Meeting ICVG, Lisbon, Portugal, 29 September-2 October 1997, p. 89.
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- (7) Teliz, D., Tanne, E., Gonsalves, D., and Zee, F. 1987. Plant Dis. 71:704-709.
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Ordering Information

Pathogen	Abbr.	Art. No.	Reagent form	Size	Assays
Grapevine leafroll-associated virus 1+3 coating IgG: polyclonal/monoclonal conjugate: polyclonal/monoclonal	GLRaV-1+3	120912	IgG	0.2 ml	1000
		120922	Conjugate	0.2 ml	1000
		120915	IgG	0.1 ml	500
		120925	Conjugate	0.1 ml	500
		120953	Positive control	2.5 ml	12
		180043	Negative control	2.5 ml	12
		120962	Reagent set 960		960
		120965	Reagent set 480		480
		120972	Complete kit 960		960
		120975	Complete kit 480		480

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

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

All buffers as well as equipment for sample preparation and disposables are also available.

For ordering, prices, and further information on any other product from BIOREBA, please contact your local distributor (see www.bioreba.com) or our office in Switzerland.

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