Product Information: DAS-ELISA

Grapevine fanleaf virus (GFLV)

Synonym: Nepovirus foliumflabelli

GFLV is a grapevine pathogen and is spread over medium and long distances in infected propagative material and soil, and between plants in the field by dorylamoid nematodes. Fanleaf disease is characterized by malformations of leaves and canes, and by various types of chlorotic discolourations of the foliage. Bunches are reduced in number and size, ripen irregularly and show shot berries and poor berry setting. Yellow mosaic is typically characterized by various patterns of brilliant chrome-yellow discolourations of leaves and shoots. Yellowing is most prominent in spring, fading away as the season progresses (heat masking). Crop losses range from moderate (5-10%) to very high (up to 90% or more) according to the virulence of the virus strain and varietal susceptibility. Fruit quality is also affected by a decrease in sugar content and titratable acidity. American rootstocks suffer a decrease of pruning wood up to 50% and show lower rooting ability of cuttings and graft take.

Specificity and sampling instruction

The DAS-ELISA reagent (1) consists of different antibodies. The antibodies were made against isolates of GFLV from Central Europe (Colmar, France) and Canada (Vineland Research Station, Ontario). The coating antibodies are polyclonal, the AP-conjugated antibodies are monoclonal (P. Ellis, personal communication). For testing grapevine, a special extraction buffer «Grapevine» (Art. No. 110123) (2, modified) is used at a ratio of 1:10 (w/v); for other plants, the extraction buffer «General» (Art. No. 110120) is used at a ratio of 1:20 (w/v). Young leaves or sprouting buds and juicy bark are good tissue sources for detecting GFLV in grapevine (3).

The product was developed in cooperation with Phyto Diagnostics Company Limited, North Saanich, BC, Canada.

Information on the antibodies

Coating IgG: polyclonal; conjugate: monoclonal

References

(1) Clark, M.F., and Adams, A.N. 1977. J. gen. Virol. 34: 475-483.

(2) Gugerli, P. 1986. In H.U. Bergmeyer: Methods of Enz. Analysis. Vol. XI, pp. 474-481.

(3) Hewitt, W.B. et al. 1970. Descriptions of plant viruses. No. 28. CMI/AAB. 4 pp.

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 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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Version: 4 - 09.05.2025
Adaptations from last version: added revised taxonomy of ICTV and assays of individual ELISA reagents.

www.bioreba.com

BIOREBA AG
Christoph Merian-Ring 7
CH-4153 Reinach
Switzerland

Your Partner in Agro-Diagnostics

phone +41 61 712 11 25
fax +41 61 712 11 17

admin@bioreba.ch
www.bioreba.com