Product Information: DAS-ELISA

Cherry leaf roll virus (CLRV)

CLRV (2) has a wide host range, is predominantly occurring in woody plants (fruit and forest trees) and has essentially world-wide distribution. Symptoms may vary seasonally. The virus is transmitted by grafting as well as by pollen and seed. Nematode transmission is controversial. Many biological strains and serological differences have been described.

BIOREBA has two cherry leaf roll virus reagents available (CLRV-ch and CLRV-e)

Both reagents are polyclonal and do not recognize all isolates, but are complementary to each other; i.e., reagent CLRV-ch does react with cherry isolates but not with isolates in elderberry (or only very slightly). On the other hand, CLRV-e reacts with elderberry isolates but does not recognize (or only very slightly) cherry isolates. Other isolates "behave" similar to cherry isolates; i.e. they are recognized predominantly by CLRV-ch: Peach (GF 305) isolate ex France (isolate not available any more) and an isolate ex East Malling. The latter one was obtained from Agroscope, the Swiss centre of excellence for research in the agriculture and food sector in *Ch. quinoa*. The information of the original host plant is not available. Both CLRV-ch and CLRV-e reagents recognize walnut isolates ex California, France and ex Switzerland equally well. The following table summarizes the serological reaction.

Tab. Serological reaction of our CLRV reagents in ELISA

Isolate	Reagent CLRV-ch	Reagent CLRV-e
Cherry, birch isolates	+++	+-
Elderberry isolates	+-	+++
Peach isolate (French)	+++	+
East Malling isolate	+++	?
Walnut isolates CH, France and USA	+++	+++

Specificity and sampling instruction for the CLRV reagents

Cherry leaf roll virus-cherry strain (CLRV-ch)

These reagents were made against a birch isolate of CLRV which was serologically indistinguishable from isolates in cherry. Hence, these reagents react with isolates from cherry (Fuchs, E., personal communication). However, these reagents do not react with serologically very distinct CLRV isolates in elderberry, which are detected with our reagents «cherry leaf roll virus-elderberry strain» (CLRV-e).

Information on the antibodies

Coating IgG: polyclonal; conjugate: polyclonal

Cherry leaf roll virus-elderberry strain (CLRV-e)

These reagents were made against an elderberry (*Sambucus racemosa*) isolate of CLRV and react with isolates from elderberry. However, these reagents do not react with serologically very distinct CLRV isolates in cherry or birch, which are detected with our reagents «cherry leaf roll virus-cherry strain» (CLRV-ch).

Information on the antibodies

Coating IgG: polyclonal; conjugate: polyclonal

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Sampling

As with many viruses in woody plants, virus distribution is often not homogeneous. Because of uneven distribution and seasonal variation, sampling is important. Generally, dormant budwood in winter as well as young leaf tissue in spring and early summer is ideal for testing (4). Taking various samples per plant (e.g. 5 subsamples from various branches of a tree) will increase the chance of correct diagnosis (3). Samples are homogenized 1:20 (w/v) in extraction buffer «General» (Art. No. 110120).

These products were developed in cooperation with the Martin-Luther-University Halle-Wittenberg, Halle (Saale), Germany.

References

(1) Clark, M.F., and Adams, A. N. 1977. J. gen. Virol. 34:475-483.
(2) Jones, A.T. 1985. Descriptions of plant viruses. No. 306. CMI/AAB. 6pp
(3) Rebenstorf, K. 2002. Diplomarbeit, Humboldt-Universität Berlin, Landwirtschaftlich-Gärtnerische Fakultät.
(4) Rowhani, A., et al. 2005. Annu. Rev. Phytopathol. 43:261-278.

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 and for prices and further information on any other product from BIOREBA, please contact your local distributor or our office in Switzerland.