Product Information: DAS-ELISA

Raspberry ringspot virus (RpRSV)

RpRSV (6), a nepovirus, with a wide host range, infects many species of wild and cultivated plants, including economically important crops such as fruit trees, small fruits and grapevines. Its geographic distribution is mainly confined to Europe, Turkey and the states of the former USSR. The virus is transmitted by nematodes, typically by *Longidorus macrosoma*. However, in the German area of Palatinate («Pfalz», near the French border), transmission by *Paralongidorus maximus* has been reported (8).

Different strains of RpRSV do exist, having consequences for the serological detection of this virus. BIOREBA has two reagents available for the detection of different RpRSV strains by DAS-ELISA (3): RpRSV-ch and RpRSV-g.

Which reagent should you use for diagnosing RpRSV in your test?

If you do not know which strain is prevalent in your area, we recommend:

For diagnosing RpRSV in fruit trees and small fruits	use RpRSV-ch reagent
For diagnosing RpRSV in grapevine	use both RpRSV-ch and RpRSV-g reagents

Specificity of the RpRSV reagents

Raspberry ringspot virus-cherry strain (RpRSV-ch)

This reagent was made against a Swiss isolate of RpRSV from a sweet cherry tree, infected with the "Pfeffinger disease" (2,7). The isolate is serologically similar to the RpRSV-English strain (2,6). It is an universal reagent, detecting isolates in different crops such as fruit trees (e.g., «Pfeffinger disease» in sweet cherry) (2), strawberry, raspberry and most grapevine isolates, including an unusual isolate (RpRSV-P) described in Germany (8). However, it does not react with some serologically very distinct RpRSV isolates in grapevine (5), which are detected with our reagent "RpRSV-grapevine strain" (RpRSV-g).

Information on the antibodies

Coating IgG: polyclonal; conjugate: polyclonal

Raspberry ringspot virus-grapevine strain (RpRSV-g)

This reagent was made against a grapevine isolate from the Valais («Wallis») in Switzerland (5), which was infected with a disease considered as "dégénérescence infectieuse," a disease group consisting of fanleaf, yellow mosaic and vein banding (1). The reagent reacts in ELISA similarly with the homologous and a grapevine isolate from the Rhine valley (9). Except these two locations, we have no reports on the finding of serologically similar RpRSV isolates.

It does not react with fruit tree isolates similar to the RpRSV-English strain causing the "Pfeffinger disease" (2) which can be detected with our reagent "RpRSV-cherry strain" (RpRSV-ch).

Information on the antibodies

Coating IgG: polyclonal; conjugate: polyclonal

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Both RpRSV reagents have been developed in cooperation with Agroscope, the Swiss centre of excellence for research in the agriculture and food sector.

Sampling instruction

The ELISA technique is an efficient method for detecting RpRSV in fruit trees and grapevine. However, the virus concentration varies considerably according to the tissue source, the meteorological conditions and thus, the time of the season. Leaves early in the growing season are usually the best tissue source for obtaining reliable test results. In grapevine, mature canes (also during dormancy) are suitable, too.

For testing grapevine, a special extraction buffer «Grapevine» (Art. No. 110123) (4, 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).

References

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(4) Gugerli, P. 1986. In H.U. Bergmeyer: Methods of Enz. Analysis. Vol XI, pp. 474-481.
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(6) Murant. A.F. 1978. Description of plant viruses. No. 198. CMI/AAB. 5 pp.
(7) Német, M. 1986. In M. Német: Virus, mycoplasma and rickettsia diseases of fruit trees. pp. 310-315.
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(9) Vuittenez, A., Kuszala, J., Rüdel, M., and Brückbauer, H. 1970. Annales de Phytopathologie 2:279-327.

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.