Product Information: DAS-ELISA

Plum pox virus (PPV)

PPV has a wide geographical distribution (Europe, North Africa, Asia, Americas). The natural host range is restricted to *Prunus* spp. The virus is transmitted by several aphid species in a non-persistent manner, is graft-transmissible to susceptible Prunus spp. and sap-transmissible to a wide range of herbaceous species, but is not seed-borne. PPV causes economic losses in cultivated stone fruit species and causes the Sharka or „plum pox" disease of *Prunus* spp. - plum, apricot, peach, sour cherry and sweet cherry. Symptoms vary depending on host susceptibility, virus isolate and environmental conditions but generally affect both leaves and fruits. Mixed infection with other viruses such as Prunus necrotic ringspot virus or Prune dwarf virus may increase the severity of symptoms (3).

Specificity and sampling instruction

These universal reagents in the DAS-ELISA format (2) are detecting the „full spectrum" of PPV isolates, i.e., D, M, EA, C (sour and sweet cherry), W, Rec and T strains. Both polyclonal and monoclonal antibodies were developed against an isolate of PPV from the Netherlands (4,6). The reagents have been truly validated with extensive collections of virus isolates from over 20 different countries; e.g. at Palacky University in Olomouc (7) as well as in independent studies („ringtests"), carried out at IVIA, Valencia, Spain (COST 88 PPV workshop, unpublished) and at the Virological Laboratory Gödöllö, Hungary (unpublished), where all isolates from different host and geographic origins were detected. The concentration of PPV in tissues of fruit trees may vary considerably (1). For example, in plum trees, petals and leaves in early summer represent the most reliable tissue source (5). Test samples are homogenized 1:20 (w/v) in extraction buffer «General» (Art. No. 110120). Direct detection in tissues of cherry trees is not always straightforward (M. Navratil, pers. communication).

The product was developed in cooperation with the Martin-Luther-University Halle-Wittenberg, Halle (Saale), Germany; and the Palacky University, Olomouc, Czech Republic.

Information on the antibodies

Coating IgG: polyclonal; conjugate: polyclonal/monoclonal

References

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(2) Clark, M.F., and Adams, A.N. 1977. J. gen. Virol. 34:475-483.
(3) Glusa, M., and Candresse, T. 1971 Descriptions of plant viruses. No. 410. CMI/AAB. 11 pp.
(4) Grüntzig, M. 1980. Arch. Phytopathol. u. Pflanzenschutz. Berlin 16,4:279-282.
(5) Grüntzig, M., Fuchs, E., and Kegler, H. 1986. Arch. Phytopathol. und Pflanzenschutz, Berlin 22,6: 441-449.
(6) Hilgert, I., Cikánek, D., Krištofová, H., Karešová, R., Navrátil. M. 1993. Hybridoma, 12/2 (Apr 93):215-220.
(7) Navrátil, M., Šimonová, V., Paprštein, F., Karešová, R. 1998. Acta Horticulturae 472:373-378.

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.

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Version: 6 - 25.04.2017
Adaptations from last version: new ordering information; minor modifications.

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BIOREBA AG — *Your Partner in Agro-Diagnostics*
Christoph Merian-Ring 7
CH-4153 Reinach BL1
Switzerland
phone +41 61 712 11 25
fax +41 61 712 11 17
admin@bioreba.ch
www.bioreba.com