

Product Information: DAS-ELISA

Pepino mosaic virus (PepMV)

Synonym: Potexvirus pepini

PepMV (6), a potexvirus, was first reported in pepino (*Solanum muricatum*) in Peru (2). In Europe, first outbreaks of PepMV in greenhouse tomato have been reported 1999/2000 in the Netherlands, Germany, France, the UK and Spain, subsequently in many European countries as well as in Canada, USA and China. Other solanaceous plants such as potatoes could be infected by artificial inoculation, but so far no PepMV problem has been observed in that crop. Different PepMV genotypes have been recognized (3, 5). Transmission occurs by contact, e.g. by clothes, contaminated tools, fruits and other plant parts, and at very low rate, by seed. PepMV is on the EPPO 'A2 List' and is a regulated pathogen on tomato seeds in the EU. Containment of disease is achieved by sanitary measures, including seed disinfection (e.g. commercial bleach solution, 4) and seed testing. DAS-ELISA (1) is one of the established methods for reliable PepMV detection in plants and seeds.

Specificity and sampling instruction

The broad-spectrum reagents were made against a selection of PepMV isolates representing all major genotypes and geographic origins; i.e. Ch1 (US1 genotype), Ch2 (CH2 genotype) isolates (3), AZ-2 and TX-1 isolates (EU genotype) (5). The reagents specifically react with PepMV in DAS-ELISA; isolates of all strain groups of different geographic origin are recognized. The virus is detected in leaves and seeds. For testing tomato, leaf samples are homogenized 1:20 (w/v) in extraction buffer «General» (Art. No. 110120). For seed testing, the following procedure is recommended: Slightly crush the seeds, e.g. with a hammer, 1:25 (w/v) in extraction buffer «General», then pre-soak them at least for 4 h (and up to overnight) at 4°C before homogenization (with HOMEX) and testing.

Information on the antibodies

Coating IgG: polyclonal; conjugate: polyclonal

References

- (1) Clark, M.F., and Adams, A.N. 1977. Characteristics of method of enzyme-linked immunosorbent assay for the detection of plant viruses. J. gen. Virol. 34:475-483.
- (2) Jones, R.A.C., Koenig, R. and Lesemann, D.-E. 1980. Pepino mosaic virus, a new potexvirus from pepino (*Solanum muricatum*). Ann. appl. Biol. 94: 61-68.
- (3) Ling, K. -S. 2007. Molecular characterization of two Pepino mosaic virus variants from imported tomato seed reveals high levels of sequence identity between Chilean and US isolates. Virus Genes 34:1-8.
- (4) Ling, K.-S. 2010. Effectiveness of Chemo- and Therapeutic treatments on Pepino mosaic virus in Tomato Seed. Plant Dis. 94:325-328.
- (5) Ling, K.-S., Wintermantel, W.M., and Bledsoe, M. 2008. Genetic Composition of Pepino mosaic virus Population in North American Greenhouse Tomatoes. Plant Dis. 92:1683-1688.
- (6) Mumford, R.A., and Jones, R.A.C. 2005. Pepino mosaic virus. Descriptions of plant viruses. No. 411. CMI/AAB.

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.

1/1

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