Product Information: DAS-ELISA

Tomato spotted wilt virus (TSWV)

Synonym: Orthotospovirus tomatomaculae

TSWV (7) belongs to the serogroup I of the genus *Tospovirus* (see Tab. 1) and is transmitted in nature by various thrips species (*Thysanoptera: Thripidae*) in a persistent manner, but can also readily be transmitted by mechanical inoculation. The virus occurs worldwide and has a wide host range. Its main vector is the western flower thrips *Frankliniella occidentalis*. More than 800 different plant species have been reported to be susceptible to TSWV. The virus causes significant yield losses in a large number of economically important crops e.g. groundnut, lettuce, papaya, pea, potato, sweet pepper, tobacco, tomato and in many ornamental crops, including alstroemeria, begonia, chrysanthemum, cyclamen, dahlia, gerbera, gloxinia and impatiens. Disease symptoms range from chlorosis, mottling, stunting and wilting to severe necrosis of leaf, stem and fruit tissues. Synonyms: BR-01, $CNPH_1$, TSWV-L3.

Tab. 1. Viruses in the genus Tospovirus are classified as follows:

Species		Serogroup*	Serotype
TSWV	Tomato spotted wilt virus Synonyms: BR-01, $CNPH_1$, TSWV-L3	I	
TCSV	Tomato chlorotic spot virus Synonym: BR-03	II	Type I
GRSV	Groundnut ringspot virus Synonyms: TSWV-peanut, SA-05	II	Type II
INSV	Impatiens necrotic spot virus Synonyms: TSWV-I, NL-07	III	

* For detection of Tospoviruses of other serogroups, please refer to the product information of the reagents INSV (detects specifically isolates of the serogroup III), or the full-spectrum reagent Tospo I,II,III.

Specificity and sampling instruction

These reagents were made against a Bulgarian isolate of TSWV from tobacco (1). The reagents react with all isolates of TSWV (serogroup I and II within the genus *Tospovirus*) (5, 6). The reagents contain poly- and monoclonal antibodies. TSWV predominantly infects vegetables, but also ornamentals. DAS-ELISA (2) has been used to detect TSWV in over 40 plant species (3) as well as in individual thrips (4). For increased test security, different plant tissue dilutions (1:50 and 1:250), applied in duplicate wells, are suggested. INSV isolates may react with reduced extinction values due to cross-reacting G protein. Samples are homogenised 1:50 (w/v) in extraction buffer «General» (Art. No. 110120).

The product is based on antibodies developed by the Leibniz Institute DSMZ GmbH, Braunschweig, Germany.

Information on the antibodies

Coating IgG: polyclonal/monoclonal; conjugate: monoclonal

References

(1) Adam, G., Lesemann, D.E., and Vetten, H.J. 1991. Ann. appl. Biol. 118:87-104.
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(3) Cho, J.J., Mau, R.F.L., Gonsalves, D., and Mitchell, W.C. 1986. Plant Disease 70:1014-1017.
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(5) De Àvila, A.C: 1992. Diversity of Tospoviruses. Thesis Agricultural .University of Wageningen. 136 pp.
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(7) Ie, T.S. 1970. Descriptions of plant viruses. No. 39. CMI/AAB. 4pp.

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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.