

Validation report

DAS-ELISA Tospovirus (I,II,III)

Article No.: 190377 (Tospovirus (I,II,III) Complete kit 96) / 190375 (Tospovirus (I,II,III) Complete kit 480) / 190372 (Tospovirus (I,II,III) Complete kit 960)

General information:

Target Pathogens	Members of the family <i>Tospoviridae</i>
Genus	<i>Orthotospovirus</i>
Method	DAS-ELISA

Technical information:

Antibodies	Complementary polyclonal and monoclonal antibodies developed against isolates from different Tospovirus-serogroups. The reagents react with serogroups I, II and III within the genus <i>Orthotospovirus</i> .
Sampling	Leaf samples: 1:50 (w/v) in extraction buffer "General"
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized Tospovirus infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf
Tested species infected	<i>Bellis</i> (Daisies) <i>Chrysanthemum</i> (Chrysanthemum) <i>Lobelia erinus</i> (Lobelia) <i>Nicotiana benthamiana</i> (Tobacco) <i>Nicotiana tabacum</i> "Xanthi" (Tobacco) <i>Nicotiana occidentalis</i> (Tobacco) <i>Petunia x hybrida</i> (Petunia) <i>Solanum lycopersicum</i> (Tomato)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	67
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	70
Detected isolates / geographic regions (Inclusivity)	GRSV 080519 (Switzerland, Tobacco) GRSV 150519 (Switzerland, Tobacco) GRSV 040619 (Switzerland, Tobacco) INSV PV-0280 (US, Hippeastrum) INSV 021012 (Switzerland, Tobacco) INSV 220414 (Switzerland, Tobacco) INSV 210514 (Switzerland, Tomato) INSV 1369 (Switzerland, Petunia) TCSV PV-0391 (Brazil, Pepper) TCSV 988 (Switzerland, Tobacco) TSWV 1277 Mt-Favet #2 (Switzerland, Tomato)

	TSWV 1277 (Switzerland, Tobacco) TSWV 1400 (Switzerland, Tobacco) TSWV (France, Chrysanthemum) TSWV (Germany, Tomato) TSWV 019-15 (Switzerland, Daisies) TSWV 003-14 (Switzerland, Pelargonium) TSWV 007-14 (Switzerland, Lobelia)
Cross reaction with (Exclusivity)	Theoretically, a reaction with all members of the serogroups I, II and III of <i>Tospoviridae</i> family can be expected
No cross reaction tested with (Exclusivity)	<u>Orthotospovirus:</u> IYSV (Iris yellow spot virus) <u>Others:</u> CMV (Cucumber mosaic virus)
No matrix effect observed with (Selectivity)	<i>Allium fistulosum</i> (Spring onion) <i>Allium sativum</i> (Garlic) <i>Aloysia citrodora</i> (Lemon verbena) <i>Bellis</i> (Daisies) <i>Cannabis sativa</i> (Hemp) <i>Capsicum annuum</i> (Pepper) <i>Carica papaya</i> (Papaya) <i>Mentha x piperita</i> (Peppermint) <i>Mentha suaveolens</i> (Mint) <i>Pelargonium</i> (Geranium) <i>Petunia x hybrida</i> (Petunia) <i>Salvia rutilans</i> (Pineapple sage) <i>Salvia officinalis</i> (Sage) <i>Solanum lycopersicum</i> (Tomato) <i>Valerianella locusta</i> (Common lamb's lettuce)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10 ⁻⁴ to 10 ⁻⁵ dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	GRSV on leaves of tobacco: 1:781'250 dilution INSV on leaves of tomato: 1:1'250 dilution TCSV on leaves of tobacco: 1:156'250 dilution TSWV on leaves of tomato: 1:156'250 dilution TSWV on fruits of tomato: 1:156'250 dilution Pathogen titers unknown
Other sensitivity characteristics	-

Validation:

Internal validation	2005, 2012 and 2021 (last internal validation)
External validation	-
Reproducibility	100%
Repeatability	100%
Validation information	Internally, the reagents have been validated with the BIOREBA isolate collection composed of various samples collected within the last 40 years.

Validation release Date:
July, 17th, 2024

QC manager:



Version: 2 – 24.09.2024