Validation report

DAS-ELISA TMV

190477 (TMV Complete kit 96) / 190475 (TMV Complete kit 480) / 190472 Article No.:

(TMV Complete kit 960)

General information:

Target Pathogen	TMV (Tobacco mosaic virus)
Genus	Tobamovirus
Method	DAS-ELISA

Technical information:

Antibodies	Polyclonal antibodies developed against a TMV isolate (FAL-76) from Switzerland.
Sampling	Leaf samples: 1:20 (w/v) in extraction buffer "General" Seed samples: 1:25 (w/v) in extraction buffer "General" with soaking the samples at 4°C for 4 hours before homogenization.
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized TMV infected plant extracts
Working volume	200 μl / well

Host matrix:

HOST HIGHTA.			
	Leaf, seed		
Tested plant material	Mechanical transmission, no true vectors, incidental		
	transmission by chewing insects reported		
	Chenopodium amaranticolor		
	Cucumis sativa (Cucumber)		
	Lactuca sativa (Lettuce)		
Tested species infected	Nicotiana clevelandii (Tobacco)		
	Nicotiana tabacum "White Burley" (Tobacco)		
	Nicotiana tabacum "Xanthi" (Tobacco)		
	Solanum lycopersicum (Tomato)		

Specificity:

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Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	81 (PT: 100%)
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	>100 (PT: 100%)
Detected isolates / geographic regions (Inclusivity)	TMV (Tobacco, Switzerland) TMV 082001 (C. Amaranticolor, Switzerland) TMV Mt-Favet (Tomato, Switzerland) TMV Mt-Favet+Mirza (Tomato, Switzerland) TMV 521 (Cucumber, Switzerland) TMV TH1-3 (Cucumber, Switzerland) TMV TH1-2 (Cucumber, Switzerland) TMV Rougette du Midi (Lettuce, Switzerland) TMV 27052021 (Cucumber, Switzerland) TMV 24082021 (Cucumber, Switzerland) TMV 4153 (Bean, Switzerland)





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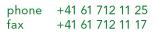
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	TAN/ DAM 4 /T C : 1 15
	TMV PMI-1 (Tobacco, Switzerland)
	TMV PMI-2 (Tobacco, Switzerland)
	TMV PMI-3 (Tobacco, Switzerland)
	TMV PMI-4 (Tobacco, Switzerland)
	TMV ZZB-312 (Tomato, Netherlands)
	CGMMV (Cucumber green mottle mosaic virus)
	ToMV (Tomato mosaic virus)
Cross reaction with (Exclusivity)	ToBRFV (Tomato brown rugose fruit virus)
	Cross-reaction with other tobamoviruses
	cannot be excluded.
	AMV (Alfalfa mosaic virus)
	BCMNV (Bean common mosaic necrosis virus)
	BCMV (Bean common mosaic virus)
	BYDV (Barley yellow dwarf virus)
	CMV (Cucumber mosaic virus)
	PFBV (Pelargonium flower break virus)
No cross reaction tested with	PLRV (Potato leafroll virus)
(Exclusivity)	PNRSV (Prunus necrotic ringspot virus)
	PVS (Potato virus S)
	PVY (Potato virus Y)
	Rs (Ralstonia solanacearum)
	SMV (Soybean mosaic virus)
	TSWV (Tomato spotted wilt virus)
	ZYMV (Zucchini yellow mosaic virus)
	Allium cepa (Onion) Allium sativum (Garlic)
	Beta vulgaris (Sugar beet)
	Brassica rapa (Chinese cabbage)
	Cannabis sativa (Hemp)
	Capsicum (Pepper)
	Chenopodium amaranticolor
	Chenopodium quinoa (Quinoa)
	Cucumis melo (Melon)
	Cucumis metuliferus (Kiwano)
	Cucumis sativa (Cucumber)
	Cucurbita pepo (Zucchini)
	Fragaria ananassa (Strawberry)
	Hordeum vulgare (Barley)
No matrix effect observed with	Lactuca sativa (Lettuce)
(Selectivity)	Malus domestica (Apple)
	Nicotiana benthamiana (Tobacco)
	Nicotiana clevelandii (Tobacco)
	Nicotiana glutinosa (Tobacco)
	Nicotiana occidentalis (Tobacco)
	Nicotiana tabacum "Xanthi" (Tobacco)
	Pelargonium (Geranium)
	Petunia hybrida (Petunia)
	Phaseolus vulgaris (Bean)
	Physalis peruviana (Bladder cherries)
	Prunus domestica (Plum)
	Prunus persica (Peach)
	Pyrus communis (Pear)
	Raphanus sativus (Radish) Rubus ideaeus (Raspberry)
	Nabus laedeus (Nasphelly)

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	Sinapis alba (White mustard) Solanum lycopersicum (Tomato) Solanum tuberosum (Potato) Vinca minor (Vinca) Vitis vinifera (Grapevine) Zea mays (Corn)
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Sensitivity:

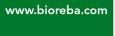
Diagnostic Sensitivity	100% PT: 100%
Analytical Sensitivity / LoD	-
Sensitivity on host matrix	100%
Other sensitivity characteristics	PT: 100% of medium and heavily contaminated seed lots detected (70 samples with each 250 seeds).

Validation:

Validation:	
Internal validation	1998, 2001, 2007 (last internal validation)
External validation	1 PT in 2023 with 15 laboratories (Netherlands)
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: June, 28th, 2023 QC manager:

Version: 2 – 15.11.2023 – New validation data from PT was included in the validation report.



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