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Validation report

PTA-ELISA Poty group test

Article No.: 163075 (Poty group Complete kit 480) / 163072 (Poty group Complete kit 960)

General information:

Target Pathogen	Potyvirus members (various viruses of the genus *Potyvirus* in the family of *Potyvriridae*)
Genus	*Potyvirus*
Method	Indirect PTA-ELISA

Technical information:

Antibodies	Monoclonal antibody developed against a peanut stripe strain isolate of Bean common mosaic virus (BCMV).
Sampling	Leaf samples: 1:50 (w/v) in extraction buffer "PTA".
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized *Potyvirus*-infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf Transmission by apids.
Tested species infected	*Allium sativum* (Garlic) *Brassica rapa* subsp. *pekinensis* (Chinese cabbage) *Chenopdium quinoa* (Quinoa) *Cucumis sativus* (Cucumber) *Cucurbita pepo* subsp. *pepo* convar. *Giromontiina* (Zucchini) *Glycine* max (L.) Merr. (Soybean) *Lactuca sativa* (Lettuce) *Nicotiana benthamiana* (Tobacco) *Nicotiana clevelandii* (Tobacco) *Nicotiana tabacum 'Xanthi'* (Tobacco) *Phaseolus vulgaris* (Bean) *Sinapis alba* (Mustard) *Solanum tuberosum* (Potato) *Zea mays* L. (Maize)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	54
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	35
Detected isolates / geographic regions (Inclusivity)	BCMNV 1230 (Switzerland, Tobacco) BCMV 1234 (Switzerland, Tobacco) BCMV 1238 (Switzerland, Bean) LMV 1070 (Switzerland, Tobacco) LMV 1264 (Switzerland, Tobacco)

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	LMV 1386 (Switzerland, Lettuce) LYSV 200317 (Switzerland, Quinoa) MDMV 290500 (Switzerland, Maize) OYDV 1185 (Switzerland, Garlic) PPV-D 968 (Switzerland, Tobacco) PPV-W 1306 (Switzerland, Tobacco) PPV 1086 (Switzerland, Tobacco) PRSV 1085 (Switzerland, Zucchini) PRSV 1372 (Switzerland, Zucchini) PRSV 9418 (Switzerland, Zucchini) PVA 775 (Switzerland, Tobacco) PVA 1307 (Switzerland, Potato) PVY^{O} 786 (Switzerland, Tobacco) PVY^{O} 803 (Switzerland, Tobacco) PVY^{NTN} 1214 (Switzerland, Potato) PVY^{NTN} 1317 (Switzerland, Tobacco) PVY^{N} 605 (Switzerland, Tobacco) PVY^{N} Wilga 1333 (Switzerland, Tobacco) SMV 1373 (Switzerland, Soybean) TuMV 1130 (Switzerland, Chinese cabbage) TuMV 1237 (Switzerland, Chinese cabbage) TuMV 48 (Switzerland, Chinese cabbage) TuMV 50 (Switzerland, Mustard) WMV-2 1082 (Switzerland, Zucchini) ZYMV 1270 (Switzerland, Zucchini) ZYMV 140104 (US, Cucumber) Potyvirus TS 047-25 (Germany, Bean)
Cross reaction with (Exclusivity)	Theoretically, a reaction with all members of the *Potyvirus* genus can be expected
No cross reaction tested with (Exclusivity)	-
No matrix effect observed with (Selectivity)	*Allium cepa* (Onion) *Cucumis sativus* (Cucumber) *Glycine* max (L.) Merr. (Soybean) *Nicotiana clevelandii* (Tobacco) *Phaseolus vulgaris* (Bean) *Physalis floridana* (Downy groundcherry) *Pisum sativum* (Pea) *Prunus armeniaca* (Apricot) *Prunus domestica* (Plum) *Solanum lycopersicum* (Tomato) *Solanum tuberosum* (Potato tuber and leaf)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10^{-3} to 10^{-5} dilution of infected tissue (pathogen titer unknown).
Sensitivity on host matrix	BCMV on leaves of tobacco: 1:50'000 dilution PPV on leaves of tobacco: 1:5'000 PRSV on leaves of zucchini: 1:500'000 dilution Pathogen titer unknown
Other sensitivity characteristics	-

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Validation:

Internal validation	2001, 2004, 2021
External validation	-
Reproducibility	100%
Repeatability	100%
Validation information	Internally, the reagents have been validated with the BIOREBA isolate collection, composed of various samples with diverse plant host range, collected within the last 40 years.

Validation release Date:
November 5th, 2026

QC manager:



Version: 1 – 05.11.2026.

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