

Validation report

DAS-ELISA PVM

Article No.: 110277 (PVM Complete kit 96) / 110275 (PVM Complete kit 480) / 110272 (PVM Complete kit 960) / 110280 (PVM Complete kit 5000)

General information:

Target Pathogen	PVM (Potato virus M)
Genus	<i>Carlavirus</i>
Method	DAS-ELISA

Technical information:

Antibodies	Polyclonal antibody developed against an PVM isolate.
Sampling	Leaf samples: 1:20 (w/v) in extraction buffer "General" Sprouts/tuber samples: 1:10-1:20 (w/v) in extraction buffer "Bulbs & Tubers"
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized PVM infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf, sprouts, tubers
Tested species infected	<i>Chenopodium quinoa</i> (Quinoa) <i>Solanum lycopersicum</i> (Tomato) <i>Solanum tuberosum</i> (Potato)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	45
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	>100
Detected isolates / geographic regions (Inclusivity)	PVM 661 Mt-Favet (Switzerland, Tomato) PVM 661 Désirée (Switzerland, Potato) PVM #98-2 (Switzerland, Potato) PVM Laura (Switzerland, Potato) PVM Agria (Switzerland, Potato) PVM Président (Switzerland, Quinoa) PVM Moneymaker (Switzerland, Tomato) PVM BNA (Germany, Potato) PVM PEI (Canada, Tomato) PVM PV-0273 (Germany, Tobacco) PVM W19-091 (Germany, Potato) PVM W19-160 (Germany, Potato) PVM 5/6 (Slovenia, Potato) PVM 9/1 (Slovenia, Potato) PVM W22-063 (Germany, Potato)
Cross reaction with (Exclusivity)	None known
No cross reaction tested with (Exclusivity)	APLV (Andean potato latent virus) GLRaV-1/3 (Grapevine leafroll-assoc. virus 1+3)

	PLRV (Potato leafroll virus) PVA (Potato virus A) PVS (Potato virus S) PVX (Potato virus X) PVY (Potato virus Y) SLRSV (Strawberry latent ringspot virus) TMV (Tobacco mosaic virus) ToANV (Tomato apex necrosis virus) TYLCV (Tomato yellow leaf curl virus)
No matrix effect observed with (Selectivity)	<i>Nicotiana tabacum</i> (Tobacco) <i>Physalis peruviana</i> (Cape gooseberry) <i>Solanum lycopersicum</i> (Tomato) <i>Solanum tuberosum</i> (Potato Leaf, Tuber)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10 ⁻⁴ dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	PVM on leaves of potato: 1:56'250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	2012 (last internal validation)
External validation	1 proficiency test (PT) every year (Germany).
Reproducibility	100%
Repeatability	100%
Validation information	Every year BIOREBA participates with PVM reagents on one external proficiency test (PT). Internally, the reagents have been validated with the BIOREBA isolate collection.

Validation release Date:
October, 31st, 2022

QC manager:



Version: 2 – 16.05.2024 – Adaptations to inclusivity and sensitivity information.