

Validation report

DAS-ELISA PVS

Article No.: 110377 (PVS Complete kit 96) / 110375 (PVS Completestkit 480) / 110372 (PVS Complete kit 960) / 110380 (PVS Complete kit 5000)

General information:

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

Technical information:

Antibodies	Polyclonal antibody developed against an PVS 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 PVS 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 curtilobum</i> (Potato) <i>Solanum lycopersicum</i> (Tomato) <i>Solanum muricatum</i> (Pepino) <i>Solanum phureja</i> (Potato) <i>Solanum tuberosum</i> (Potato)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	>100
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	>100
Detected isolates / geographic regions (Inclusivity)	PVS 844 Mirza (Switzerland, Tomato) PVS 1222 Mirza/Mt-Favet (Switzerland, Tomato) PVS 1177 Mt-Favet (Switzerland, Tomato) PVS 1396 (Switzerland, Tomato / Quinoa) PVS Noé 447/02 (Switzerland, Potato) PVS Pirol (Switzerland, Potato) PVS PV-1203 MW051783 (Colombia, Potato) PVS PV-1201 MW051782 (Bolivia, Potato) PVS PV-1200 MW051781 (Ecuador, Potato) PVS PV-1186 MW051780 (Peru, Potato) PVS PV-0758 MW051778 (Chile, Potato) PVS PV-0757 (Chile, Potato) PVS PV-0739 MW051777 (Ecuador, Potato) PVS PV-0838 MW051779 (Chile, Potato) PVS PV-0740 (Netherlands, Pepino)

	PVS PV-0274 MZ202332 (Germany, Potato) PVS PV-0574 (Germany, Tomato) PVS PV-0756 (Germany, Potato) PVS PV-0789 (Germany, Potato) PVS PV-0790 (Germany, Potato) PVS PV-1251 (Austria, Potato) PVS 17/4 (Slovenia, Potato) PVS 17/5 (Slovenia, Potato) PVS W19-095 (Germany, Potato) PVS W19-091 (Germany, Potato) PVS PV-1327 / OM471986 (Germany, Quinoa)
Cross reaction with (Exclusivity)	None known
No cross reaction tested with (Exclusivity)	ApP (Apple proliferation phytoplasma) BYDV (Barley yellow dwarf virus) CLRV (Cherry leaf roll virus) PLRV (Potato leafroll virus) PVA (Potato virus A) PVM (Potato virus M) PVX (Potato virus X) PVY (Potato virus Y) Rs (<i>Ralstonia solanacearum</i>) SLRSV (Strawberry latent ringspot virus) TBSV (Tomato bushy stunt virus) WMV-2 (Watermelon mosaic virus 2)
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 ⁻² to 10 ⁻³ dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	PVS on leaves of potato: 1:6'250 dilution PVS on tubers of potato: 1:250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	2021 (last internal validation)
External validation	2 proficiency tests (PT) every year (Germany, Ireland).
Reproducibility	100%
Repeatability	100%
Validation information	Every year BIOREBA participates with PVS reagents on two external proficiency tests (PT). In 2021, a larger validation was internally conducted by testing various PVS isolates (including PVS^o and PVS^A isolates). 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.