

Validation report

DAS-ELISA PVY necrotic

Article No.: 112777 (PVY Complete kit 96) / 112775 (PVY Complete kit 480) / 112772 (PVY Complete kit 960)

General information:

Target Pathogen	PVY (Potato virus Y / Potyvirus yituberosi)
Genus	Potyvirus
Method	DAS-ELISA

Technical information:

Antibodies	Monoclonal antibodies developed against the PVY ^N 605 isolate. This reagent specifically recognizes PVY ^N (PVY tobacco veinal necrosis strain), including a subgroup of PVY ^{NTN} (PVY tuber necrosis strain).
Sampling	Leaf samples: 1:20 (w/v) in extraction buffer "General". Tuber and sprout samples: 1:10 to 1:20 (w/v) in extraction buffer "Bulbs & Tubers".
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized PVY infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf, tuber, sprout Transmission by vectors (aphids) and mechanical transmission by inoculation.
Tested species infected	<i>Nicotiana tabacum</i> "Xanthi" (Tobacco) <i>Solanum tuberosum</i> (Potato)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	73
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	>100
Detected isolates / geographic regions (Inclusivity)	PVY ^N 605 (Switzerland, Tobacco) PVY ^N 605 (Switzerland, Potato) PVY ^{NTN} 59 1317 (Switzerland, Tobacco) PVY ^{NTN} 59 1317 (Switzerland, Potato) PVY ^{NTN} 59 1214 (Switzerland, Potato) PVY ^{NTN} 300107 (Switzerland, Tobacco)
Cross reaction with (Exclusivity)	Weak cross reaction with PVY ^C subgroup.
No cross reaction tested with (Exclusivity)	BYDV (Barley yellow dwarf virus) PLRV (Potato leafroll virus) PVA (Potato virus A) PVS (Potato virus S) PVX (Potato virus X) PVY ^N Wi-1984 (Potato virus Y)

	PVY ^N Wi-1933 (Potato virus Y, PVY ^N W subgroup) PVY ^O 803 (Potato virus Y, PVY ^{Oa} subgroup) PVY ^O 768 (Potato virus Y, PVY ^{Ob} subgroup) Rs (Ralstonia solanacearum) WMV-2 (Watermelon mosaic virus-2)
No matrix effect observed with (Selectivity)	<i>Nicotiana tabacum</i> "Xanthi" (Tobacco) <i>Solanum tuberosum</i> (Potato)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10 ⁻³ dilution of infected tissue (pathogen titer unknown).
Sensitivity on host matrix	PVY ^N on leaves of potato: 1:6'250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	2002 (last internal validation)
External validation	1 proficiency test (PT) every year (Ireland).
Reproducibility	100%
Repeatability	100%
Validation information	Every year BIOREBA participates with PVY necrotic reagents on an external proficiency test (PT). 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:
July 10th, 2026

QC manager:



Version: 1 – 10.07.2026