

Validation report

DAS-ELISA PLRV

Article No.: 110677 (PLRV Complete kit 96) / 110675 (PLRV Complete kit 480) / 110672 (PLRV Complete kit 960) / 110680 (PLRV Complete kit 5000)

General information:

Target Pathogen	PLRV (Potato leafroll virus)
Genus	<i>Poterovirus</i>
Method	DAS-ELISA

Technical information:

Antibodies	Monoclonal and polyclonal antibody developed against an PLRV 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 PLRV infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf, sprouts, tubers
Tested species infected	<i>Physalis peruviana</i> (Cape Gooseberry) <i>Physalis floridana</i> (Bladder cherries) <i>Solanum tuberosum</i> (Potato) <i>Nicotiana tabacum</i> (Tobacco)

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)	PLRV 08-1999 (Switzerland, Cape gooseberry) PLRV 04-2007 (Switzerland, Bladder cherries) PLRV Agria 128 (Switzerland, Potato) PLRV Marlen 164 (Switzerland, Potato) PLRV Agata 202 (Switzerland, Potato) PLRV Princess 1 (Germany, Potato) PLRV Bintje 1 (Switzerland, Potato) PLRV Désirée (Switzerland, Potato) PLRV DR2 Nr. 3 (Peru, Potato) PLRV Mondial 7 (South Africa, Potato) PLRV Mondial 13 (South Africa, Potato) PLRV Mondial 30 (South Africa, Potato) PLRV FV 3 1-5 (Australia, Potato) PLRV Valor 2 / Nr. 1 (Australia, Potato) PLRV Valor 2 / Nr. 2 (Australia, Potato) PLRV Valor 4 (Australia, Potato)

	PLRV Valor 5 / Nr. 2 (Australia, Potato) PLRV SDRM 4 (Europe, Potato) PLRV PV-0842 (Germany, Bladder cherries) PLRV W19-160 (Germany, Potato) PLRV PV-1212 (Germany, Cape gooseberry)
Cross reaction with (Exclusivity)	None known
No cross reaction tested with (Exclusivity)	ACLSV (Apple chlorotic leaf spot virus) BYDV (Barley yellow dwarf virus) CaMV (Cauliflower mosaic virus) CLRV (Cherry leaf roll virus) GLRaV-1 (Grapevine leafroll-associated virus 1) GLRaV-3 (Grapevine leafroll-associated virus 3) INSV (Impatiens necrotic spot virus) PMTV (Potato mop-top virus) PVA (Potato virus A) PVM (Potato virus M) PVS (Potato virus S) PVX (Potato virus X) PVY (Potato virus Y) SLRSV (Strawberry latent ringspot virus) SMYEPV (Strawberry mild yellow potexvirus) TBSV (Tomato bushy stunt virus) TRSV (Tobacco ringspot virus)
No matrix effect observed with (Selectivity)	<i>Physalis peruviana</i> (Cape gooseberry) <i>Solanum tuberosum</i> (Potato Leaf, Tuber) <i>Nicotiana tabacum</i> (Tobacco)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10 ⁻² dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	PLRV on leaves of potato: 1:250 dilution PLRV on tubers of potato: 1:250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	2000
External validation	2 proficiency tests (PT) every year (Germany, Ireland).
Reproducibility	100%
Repeatability	100%
Validation information	Every year BIOREBA participates with PLRV reagents on two external proficiency tests (PT). In 2016 a larger validation was done with an external laboratory (South Africa) Internally, the reagents have been continuously validated with the BIOREBA isolate collection.

Validation release Date:
October, 07th, 2022

QC manager:



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