EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION ORGANISATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES Summary sheet of validation data for a diagnostic test

The EPPO Standard PM 7/98 Specific requirements for laboratories preparing accreditation for a plant pest diagnostic activity describes how validation should be conducted. It also includes definitions of performance criteria.

Laboratory contact details	Netherlands Institute for Vectors, Invasive plants and Plant health P.O. Box 9102, 6700 HC Wageningen, Netherlands
Short description of the test	Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp.
Date, reference of the validation report	2020-06-30 - PPV1
Link to other validation data	- PPV1 Serological detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Serological detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Serological detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Serological detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp PPV1 Molecular detection of plum pox virus (PPV) in symptomatic and asymptomatic leaves of Prunus spp.

Validation process according to EPPO Standard PM7/98? Is the lab accredited for this test? No Was the validated data generated in the framework of a project? If yes, please specify VALITEST Description of the test Organism(s) Plum pox virus / Potyvirus plumpoxi (PPV000) Detection / identification Method(s) Molecular Extraction DNA RNA Molecular Extraction DNA RNA Reference of the test description As or adapted from an EPPO diagnostic protocol Is the test modified compared to the reference test Kit Is a kit used Manufacturer name Specify the kit used Manufacturer in a comparation of the comparatio		in symptomatic and asymptomatic leaves of Prunus	
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Reference of the test Olmos et al. 2005 (Journal of Virological Methods)		no	
128: 151–155)	Reference of the test	Olmos et al., 2005 (Journal of Virological Methods, 128: 151-155)	

Is the test modified compared to the reference test	no	
Kit		
Is a kit used	yes	
Manufacturer name	QUALIPLANTE	
Specify the kit used	One-Step Real-Time RT-PCR (Taq Man®) kit (ref qPCR.PPV)	
Kit used following the manufacturer's instructions?	yes	
Other information		
Reaction type	Simplex - Probe	
Performance Criteria :		
Organism 1.:	Potyvirus plumpoxi(PPV000)	
Analytical sensitivity		
What is smallest amount of target that can be detected reliably?	PPV-infected Nicotiana benthamiana extracts could be diluted up to at least 10^4 times in PPV free Prunus sp. extract and still show a positive signal	
<u>Diagnostic sensitivity</u>	,	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	100%	
Standard test(s)	Known status of of samples. Positive samples with known Ct values were diluted in PPV free Prunus extract.	
Analytical specificity - inclusivity		
Number of strains/populations of target organisms tested	PPV strain An, C, CR, D, EA, M, Rec, T	
Specificity value	100%	
Analytical specificity - exclusivity		
Number of non-target organisms tested	NA	
Specificity value	NA	
Diagnostic Specificity		
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	89.5%	
Specify the test(s)	Known status of of samples. All specimens were sequenced using NGS to verify viral content (PPV and other viruses)	
<u>Reproducibility</u>		
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	98.50%	
<u>Repeatability</u>		
Provide the calculated % of agreement for a	100% evaluated with 2 replicate samples	

given level of the pest (see PM 7/98)		
Test performance study		
Test performance study?	yes	
Brief details of the test performance study and its output.It available, link to published article/report	Test performance study organized in the framework of the VALITEST project involving 12 laboratories from 10 countries	
The following complementary files are available online:	VALITEST PPV TPS REPORT	

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