EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION
ORGANISATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES
(11-17239)
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.

Target Organism	Xanthomonas axonopodis pv. dieffenbachiae
Short description	Detection of Xanthomonas axonopodis pv. dieffenbachiae by DAS-ELISA in leaves and pure culture
Laboratory contact details	Anses Plant Health Laboratory - Pests and Tropical Pathogens Unit Pôle de Protection des Plantes, 7 Chemin de l'IRAT, 97410 Saint Pierre, France
Date and reference of the validation report	2012-03 - Inter-laboratory ring test : Xanthomonas axonopodis pv. dieffenbachiae in Anthurium (Report Xad01-version 2)
Validation process according to EPPO Standard PM 7/98:	No
Reference of the test description	0 appendix 3 and PRI protocol for the detection of Xad by DAS-ELISA
Is the test the same as described in the EPPO DP?	Yes
Is the lab accredited for this test?	No
Plant species tested (if relevant)	Anthurium sp.
Matrices tested (if relevant)	Leaves and pure culture

List of methods used		
Method for extraction / isolation / baiting of target organism from matrix	X	Extraction as in Appendix 1 of PM7/23(2)
Molecular methods, e.g. hybridization, PCR and real time PCR		
Serological methods: IF, ELISA, Direct Tissue Blot Immuno Assay	X	PRI protocol for detection of Xad by DAS-ELISA
Plating methods: selective isolation		
Bioassay methods: selective enrichment in host plants, baiting, plant test and grafting.		
Pathogenicity test		
Fingerprint methods: protein		

profiling, fatty acid profiling & DNA profiling		
Morphological and morphometrical methods intended for identification		
Biochemical methods: e.g. enzyme electrophoresis, protein profiling		
Other		

<u>**Analytical sensitivity (= limit of detection)**</u>

What is smallest amount of target that can be detected reliably?	10^4 CFU.mL-1

<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	Comparative study : 100% ; Collaborative study : 63.5%-70.5%
Specify the standard test	Isolation + AGDIA Indirect-ELISA on pure culture (OEPP PM7/23)

<u>**Analytical specificity**</u>

Specificity value	47%
Number of strains/populations of target organisms tested	50 (see attached downloadable file Appendix 1)
Number of non-target organisms tested	53 (see attached downloadable file Appendix 2)
Cross reacts with (specify the species)	DAS-ELISA can not exclude strains described as Xad but not pathogenic to Anthurium and some strains that belong to the same species but to a different pathovar. In addition, this method can not exclude some saprophytic strains.

<u>**Diagnostic Specificity**</u>

Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	Comparative study : 94%; Collaborative study : 91%-93%
Specify the standard test	Isolation + AGDIA Indirect-ELISA on pure culture (OEPP PM7/23)

<u>**Reproducibility**</u>

Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	74%-78%

<u>**Repeatability**</u>

Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	89%-91%

<u>**Test performance study**</u>

Test performance study?	Yes
Include brief details of the test	Because of its lack of specificity, the DAS-ELISA should not be

performance study and its output.It available, provide a link to published article/report	used for identification purposes. Report is downloadable from this database.
Other information	
Any other information considered useful **e.g. robustness, ease of performing the test, etc.**	
The following complementary files are available online:	• Appendix 1-List target strains • Appendix 2-List of non-target strains • Inter-laboratory ring test : Xanthomonas axonopodis pv. dieffenbachiae in Anthurium (Report Xad01-version 2)