

EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION
ORGANISATION EUROPEENNE ET MEDITERRANEEENNE 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	Clavibacter michiganensis subsp. michiganensis	
Short description	Detection of Clavibacter michiganensis subsp. michiganensis from symptomatic plant material by plating	
Laboratory contact details	Netherlands Institute for Vectors, Invasive plants and Plant health P.O. Box 9102, 6700 HC Wageningen, Netherlands	
Date and reference of the validation report	2010-04 - BAC-2010-03 Methodevalidatie van de uitplaattoets voor Clavibacter michiganensis subsp. michiganensis uit bladstengel van tomaat	
Validation process according to EPPO Standard PM 7/98:	Yes	
Reference of the test description	0 Koenraadt, H., van Vliet, A., Neijndorff, N., and Woudt, B. 2009. Improvement of semi-selective media for the detection of Clavibacter michiganensis subsp. michiganensis in seeds of tomato. (Abstr.) Phytopathology 99:S66.	
Is the test the same as described in the EPPO DP?	No To be considered for revision on PM 7/042	
Is the lab accredited for this test?	No	
Plant species tested (if relevant)	Solanum lycopersicum	
Matrices tested (if relevant)	Petioles and sectioned stems	
List of methods used		
Method for extraction / isolation / baiting of target organism from matrix		
Molecular methods, e.g. hybridization, PCR and real time PCR		
Serological methods: IF, ELISA, Direct Tissue Blot Immuno Assay		
Plating methods: selective isolation	X	Isolation plating on two semi-selective media : FSCM and CMM1
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?	1.0x10 ³ cfu*ml ⁻¹ for CMM1 and 9.0x10 ² cfu*ml ⁻¹ for FSCM	
<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%	
Specify the standard test	Isolation on the conventional media SCM and D2ANX	
<u>Analytical specificity</u>		
Specificity value		
Number of strains/populations of target organisms tested	20 cmm strains (see details in the full validation report)	
Number of non-target organisms tested	20 related strains (see details in the full validation report)	
Cross reacts with (specify the species)	Cross reaction was only observed for Pseudomonas corrugata on the FSCM medium, resembling the colony morphology of cmm on this medium. However, Pseudomonas corrugata could not grow on the CMM1 medium.	
<u>Diagnostic Specificity</u>		
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	95%	
Specify the standard test	Isolation on the conventional media SCM and D2ANX	
<u>Reproducibility</u>		
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100%	
<u>Repeatability</u>		
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100%	
<u>Test performance study</u>		
Test performance study?	No	
Include brief details of the test performance study and its output.It		

available, provide a link to published article/report	
Other information	
Any other information considered useful e.g. robustness, ease of performing the test, etc.	For the selectivity two different varieties of Solanum lycopersicum were included in this validation (Money maker and Saint Pierre). For both varieties comparable growth results were acquired.
The following complementary files are available online:	<ul style="list-style-type: none"> • Method validation of the isolation method for Clavibacter michiganensis subsp. michiganensis from infected plant material, Plant Protection Service (in Dutch)