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	EUPH DNA Barcoding , , EUPHRESCO
Short description of the test	DNA Barcoding - Optimizing and validating DNA barcoding protocols for arthropods
Date, reference of the validation report	2016-06-30 - Final_report_DNA barcoding.doc
Validation process according to EPPO Standard PM7/98?	yes
Is the lab accredited for this test?	no
Was the validated data generated in the framework of a project?	Euphresco
If yes, please specify	EUPHRESCO DNA Barcoding - Optimizing and validating DNA barcoding protocols for plant pests
Description of the test	
Organism(s)	Anoplophora glabripennis (ANOLGL) Bemisia tabaci (BEMITA) Vespa crabro (VESPCC) Spodoptera eridania (PRODER) Liriomyza huidobrensis (LIRIHU)
Detection / identification	identification
Matrix(ces) tested	Specimen
Method(s)	Molecular Sanger seq Molecular other
Method: Molecular Sanger seq	
Reference of the test description	
Other information	
Method: Molecular other	
Reference of the test description	
As or adapted from an EPPO diagnostic protocol	yes
EPPO Diagnostic Protocol name	PM 7/129 DNA barcoding as an identification tool for a number of regulated pests (version 1)
As or adapted from an IPPC diagnostic protocol	no

Is the test modified compared to the reference test	no
Kit	
Is a kit used	no
Other information	
Other details on the test	BIO-X-ACT™ Short Mix (Bioline)
Are the performance characteristics included in the EPPO diagnostic protocol?	**yes**
Performance Criteria :	
Organism 1.:	**Anoplophora glabripennis(ANOLGL)**
Analytical sensitivity	
What is the smallest amount of target that can be detected reliably?	Genomic DNA extract dilutions tested ranged from 0.3 ng/µl to 3.9 ng/µl for the arthropod samples and resulted in amplicons, high quality trace data and identifiable consensus sequences.
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	100%
Organism 2.:	**Bemisia tabaci(BEMITA)**
Analytical sensitivity	
What is the smallest amount of target that can be detected reliably?	Genomic DNA extract dilutions tested ranged from 0.3 ng/µl to 3.9 ng/µl for the arthropod samples and resulted in amplicons, high quality trace data and identifiable consensus sequences.
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	100%
Organism 3.:	**Vespa crabro(VESPCC)**
Analytical sensitivity	
What is the smallest amount of target that can be detected reliably?	Genomic DNA extract dilutions tested ranged from 0.3 ng/µl to 3.9 ng/µl for the arthropod samples and resulted in amplicons, high quality trace data and identifiable consensus sequences.
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	100%
Organism 4.:	**Spodoptera eridania(PRODER)**
Analytical sensitivity	
What is the smallest amount of target that can be detected reliably?	Genomic DNA extract dilutions tested ranged from 0.3 ng/µl to 3.9 ng/µl for the arthropod samples and resulted in amplicons, high quality trace data and

	identifiable consensus sequences.
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	91% (100% after re-analysing the consensus sequence data provided by TPS participants)
Organism 5.:	**Liriomyza huidobrensis(LIRIHU)**
Analytical sensitivity	
What is the smallest amount of target that can be detected reliably?	Genomic DNA extract dilutions tested ranged from 0.3 ng/µl to 3.9 ng/µl for the arthropod samples and resulted in amplicons, high quality trace data and identifiable consensus sequences.
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	100%
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 involving 13 laboratories (11 of which provided data). See report for more information.
The following complementary files are available online:	• EUPHRESCO DNA Barcoding - report

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