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	identification of Spodoptera eridania, Spodoptera frugiperda, Spodoptera littoralis, Spodoptera litura, Spodoptera ornithogalli Spodoptera ornithogalli by Molecular Sanger seq in Specimen
Date, reference of the validation report	2021-03-26 - F-MOL-047-002 5684149 v 5717385 v 32812451 v 32660177 v 38623019
Validation process according to EPPO Standard PM7/98?	yes
Is the lab accredited for this test?	yes
Was the validated data generated in the framework of a project?	no
Description of the test	
Organism(s)	Spodoptera eridania (PRODER) Spodoptera frugiperda (LAPHFR) Spodoptera littoralis (SPODLI) Spodoptera litura (PRODLI) Spodoptera ornithogalli (PRODOR)
Detection / identification	identification
Matrix(ces) tested	Specimen
Method(s)	Molecular Sanger seq
Method: Molecular Sanger seq	
Reference of the test description	
As or adapted from an EPPO diagnostic protocol	yes
New test being considered for inclusion in the next version of the EPPO diagnostic protocol?	yes
EPPO Diagnostic Protocol name	PM 7/129 DNA barcoding as an identification tool for a number of regulated pests (version 2)
Other information	
Performance Criteria :	
Organism 1.:	**Spodoptera eridania(PRODER)**

Analytical sensitivity	
What is the smallest amount of target that can be detected reliably?	See EPPO PM 7/129 4 ng/µL
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	See EPPO PM 7/129 98%
Analytical specificity - inclusivity	
Number of strains/populations of target organisms tested	See added identification report
Specificity value	
Analytical specificity - exclusivity	
Number of non-target organisms tested	See added identification report
Specificity value	
Diagnostic Specificity	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	x
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Repeatability	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Organism 2.:	**Spodoptera frugiperda(LAPHFR)**
Analytical sensitivity	
What is the smallest amount of target that can be detected reliably?	See EPPO PM 7/129 4 ng/µL
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	See EPPO PM 7/129 98%
Analytical specificity - inclusivity	
Number of strains/populations of target organisms tested	See added identification report
Specificity value	
Analytical specificity - exclusivity	
Number of non-target organisms tested	See added identification report
Specificity value	
Diagnostic Specificity	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared	x

to results from a standard test	
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Repeatability	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Organism 3.:	**Spodoptera littoralis(SPODLI)**
Analytical sensitivity	
What is the smallest amount of target that can be detected reliably?	See EPPO PM 7/129 4 ng/µL
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	See EPPO PM 7/129 98%
Analytical specificity - inclusivity	
Number of strains/populations of target organisms tested	See added identification report
Specificity value	
Analytical specificity - exclusivity	
Number of non-target organisms tested	See added identification report
Specificity value	
Diagnostic Specificity	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	x
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Repeatability	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Organism 4.:	**Spodoptera litura(PRODLI)**
Analytical sensitivity	
What is the smallest amount of target that can be detected reliably?	See EPPO PM 7/129 4 ng/µL
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	See EPPO PM 7/129 98%
Analytical specificity - inclusivity	
Number of strains/populations of target	See added identification report

organisms tested	
Specificity value	
Analytical specificity - exclusivity	
Number of non-target organisms tested	See added identification report
Specificity value	
Diagnostic Specificity	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	x
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Repeatability	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Organism 5.:	**Spodoptera ornithogalli(PRODOR)**
Analytical sensitivity	
What is the smallest amount of target that can be detected reliably?	See EPPO PM 7/129 4 ng/µL
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	See EPPO PM 7/129 98%
Analytical specificity - inclusivity	
Number of strains/populations of target organisms tested	See added identification report
Specificity value	
Analytical specificity - exclusivity	
Number of non-target organisms tested	See added identification report
Specificity value	
Diagnostic Specificity	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	x
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Repeatability	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Test performance study	

Test performance study?	yes
Brief details of the test performance study and its output.It available, link to published article/report	TPS was organized in the framework of EUPHRESCO DNA Barcoding - Optimizing and validating DNA barcoding protocols for plant pests. Twenty-three laboratories participated from 15 countries.
The following complementary files are available online:	• Identification report S. frugiperda • Identification report S. litura • identification report S. eridania • identification report S. ornithogalli • Identification report S. littoralis

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