

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 <i>Spodoptera albula</i> , <i>Spodoptera androgea</i> , <i>Spodoptera cosmioidea</i> , <i>Spodoptera dolichos</i> , <i>Spodoptera exigua</i> , <i>Spodoptera latifascia</i> , <i>Spodoptera ochrea</i> , <i>Spodoptera trituratora</i> by Molecular Sanger seq in Specimen
Date, reference of the validation report	2020-03-20 - F-MOL-047-002 <i>Spodoptera</i> sp.
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)	<i>Spodoptera albula</i> (PRODSU) <i>Spodoptera androgea</i> (SPODAN) <i>Spodoptera cosmioidea</i> (SPODCO) <i>Spodoptera dolichos</i> (SPODDO) <i>Spodoptera exigua</i> (LAPHEG) <i>Spodoptera latifascia</i> (SPODLA) <i>Spodoptera ochrea</i> (SPODOC) <i>Spodoptera trituratora</i> (SPODTR)
Detection / identification	identification
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
Other information	
Other details on the test	Based on EPPO PM 7/129
Performance Criteria :	
Organism 1.:	<i>Spodoptera albula</i>(PRODSU)

Analytical sensitivity	
What is 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 androgea(SPODAN)
Analytical sensitivity	
What is 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	
<u>Reproducibility</u>	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
<u>Repeatability</u>	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Organism 3.:	Spodoptera cosmioides(SPODCO)
<u>Analytical sensitivity</u>	
What is smallest amount of target that can be detected reliably?	See EPPO PM 7/129 4 ng/μL
<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	See EPPO PM 7/129 98%
<u>Analytical specificity - inclusivity</u>	
Number of strains/populations of target organisms tested	See added identification report
Specificity value	
<u>Analytical specificity - exclusivity</u>	
Number of non-target organisms tested	See added identification report
Specificity value	
<u>Diagnostic Specificity</u>	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	x
<u>Reproducibility</u>	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
<u>Repeatability</u>	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Organism 4.:	Spodoptera dolichos(SPODDO)
<u>Analytical sensitivity</u>	
What is smallest amount of target that can be detected reliably?	See EPPO PM 7/129 4 ng/μL
<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	See EPPO PM 7/129 98%
<u>Analytical specificity - inclusivity</u>	
Number of strains/populations of target	See added identification report

organisms tested	
Specificity value	
<u>Analytical specificity - exclusivity</u>	
Number of non-target organisms tested	See added identification report
Specificity value	
<u>Diagnostic Specificity</u>	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	x
<u>Reproducibility</u>	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
<u>Repeatability</u>	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Organism 5.:	Spodoptera exigua(LAPHEG)
<u>Analytical sensitivity</u>	
What is smallest amount of target that can be detected reliably?	See EPPO PM 7/129 4 ng/μL
<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	See EPPO PM 7/129 98%
<u>Analytical specificity - inclusivity</u>	
Number of strains/populations of target organisms tested	See added identification report
Specificity value	
<u>Analytical specificity - exclusivity</u>	
Number of non-target organisms tested	See added identification report
Specificity value	
<u>Diagnostic Specificity</u>	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	x
<u>Reproducibility</u>	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
<u>Repeatability</u>	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	See added identification report
Organism 6.:	Spodoptera latifascia(SPODLA)

Analytical sensitivity	
What is 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 7.:	Spodoptera ochrea(SPODOC)
Analytical sensitivity	
What is 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 8.:	Spodoptera trituratora(SPODTR)
Analytical sensitivity	
What is 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 EUPHRESKO 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 Spodoptera albula • Identification report Spodoptera androgea • identification report Spodoptera cosmioides • Identification report Spodoptera latifascia

	• identification report Spodoptera dolichos • identification report Spodoptera ochrea • Identification report Spodoptera exigua • Identification report Spodoptera trituratora
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