

**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.

<b>Laboratory contact details</b>	Netherlands Institute for Vectors, Invasive plants and Plant health P.O. Box 9102, 6700 HC Wageningen, Netherlands
<b>Short description of the test</b>	identification of <i>Spodoptera eridania</i> , <i>Spodoptera frugiperda</i> , <i>Spodoptera littoralis</i> , <i>Spodoptera litura</i> , <i>Spodoptera ornithogalli</i> <i>Spodoptera ornithogalli</i> by Molecular Sanger seq in Specimen
<b>Date, reference of the validation report</b>	2021-03-26 - F-MOL-047-002 5684149 v 5717385 v 32812451 v 32660177 v 38623019
<b>Validation process according to EPPO Standard PM7/98?</b>	yes
<b>Is the lab accredited for this test?</b>	yes
<b>Was the validated data generated in the framework of a project?</b>	no
<b>Description of the test</b>	
<b>Organism(s)</b>	<i>Spodoptera eridania</i> (PRODER) <i>Spodoptera frugiperda</i> (LAPHFR) <i>Spodoptera littoralis</i> (SPODLI) <i>Spodoptera litura</i> (PRODLI) <i>Spodoptera ornithogalli</i> (PRODOR)
<b>Detection / identification</b>	identification
<b>Method(s)</b>	Molecular Sanger seq
<b>Method: Molecular Sanger seq</b>	
<b>Reference of the test description</b>	
<b>As or adapted from an EPPO diagnostic protocol</b>	yes
<b>New test being considered for inclusion in the next version of the EPPO diagnostic protocol?</b>	yes
<b>EPPO Diagnostic Protocol name</b>	PM 7/129 DNA barcoding as an identification tool for a number of regulated pests (version 2)
<b>Other information</b>	
<b>Performance Criteria :</b>	
<b>Organism 1.:</b>	<b><i>Spodoptera eridania</i>(PRODER)</b>
<b>Analytical sensitivity</b>	

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

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

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

<b>Brief details of the test performance study and its output. It available, link to published article/report</b>	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:	<ul style="list-style-type: none"><li>• <a href="#">Identification report <i>S. frugiperda</i></a></li><li>• <a href="#">Identification report <i>S. litura</i></a></li><li>• <a href="#">identification report <i>S. eridania</i></a></li><li>• <a href="#">identification report <i>S. ornithogalli</i></a></li><li>• <a href="#">Identification report <i>S. littoralis</i></a></li></ul>

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