**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.

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| **Laboratory contact details** | EUPH DNA Barcoding<br>, , 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 |
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| **Description of the test** | |
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| **Organism(s)** | Anoplophora glabripennis (ANOLGL)<br>Bemisia tabaci (BEMITA)<br>Vespa crabro (VESPCC)<br>Spodoptera eridania (PRODER)<br>Liriomyza huidobrensis (LIRIHU) |
| **Detection / identification** | identification |
| **Method(s)** | Molecular other |
| **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*** | |

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| **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 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 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 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 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)** |

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| **Analytical sensitivity** | |
| **What is 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. |
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| The following complementary files are available online: | • EUPHRESCO DNA Barcoding - report |

*Creation date: 2020-07-01 14:15:12 - Last update: 2025-06-12 20:43:53*