

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 | Council for Agricultural Research and Economics- Research Centre for Plant Protection and Certification Via Carlo Giuseppe Bertero, 22, 00156 Rome, Italy |
| Short description of the test | detection of Tomato leaf curl New Delhi virus Tomato leaf curl New Delhi virus by Molecular real time PCR in Leaves |
| Date, reference of the validation report | 2022-05-05 - Proficiency test for detection of tomato leaf curl New Delhi virus (EURL- Virology_2020-02-ToLCNDV) |
| Link to other validation data | - Proficiency test for detection of tomato leaf curl New Delhi virus (EURL-Virology_2020-02-ToLCNDV) detection of Tomato leaf curl New Delhi virus Tomato leaf curl New Delhi virus by Serological DAS- ELISA in Leaves |
| 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? | EURL |
| If yes, please specify | PT-02_2022 EURL Virology |
| Description of the test | |
| Organism(s) | Tomato leaf curl New Delhi virus(TOLCND) |
| Detection / identification | detection |
| Matrix(ces) tested | Leaves Leaves from cucurbits artificialy inoculated with the isolates belonging to the CREA-DC collection |
| Plant species tested | Cucurbitaceae |
| Method(s) | Molecular real time PCR |
| Method: Molecular real time PCR | |
| Reference of the test description | |
| As or adapted from an EPPO diagnostic protocol | no |
| New test being considered for inclusion in the next version of the EPPO diagnostic protocol? | yes |

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| As or adapted from an IPPC diagnostic protocol | no |
| Reference of the test | Simon et al., 2018 (ToIA primer pairs) |
| Is the test modified compared to the reference test | no |
| Kit | |
| Is a kit used | no |
| Other information | |
| Reaction type | Simplex |
| Other details on the test | |
| Are the performance characteristics included in the EPPO diagnostic protocol? | |
| Performance Criteria : | |
| Organism 1.: | Tomato leaf curl New Delhi virus(TOLCND) |
| Analytical sensitivity | |
| What is smallest amount of target that can be detected reliably? | 10 ⁻⁵ |
| Diagnostic sensitivity | |
| Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98 | 100% |
| Standard test(s) | From a comparison of samples of known status. The tests was performed by three different laboratories |
| Analytical specificity - inclusivity | |
| Number of strains/populations of target organisms tested | - ToLCNDV (italian isolate 102) - ToLCNDV (Italian isolate 126) - ToLCNDV isolate from DSMZ PV1109 - ToLCNDV isolate from DSMZ PV1111) |
| Specificity value | 100% |
| Analytical specificity - exclusivity | |
| Number of non-target organisms tested | TYLCV (M; IL); TYLCSV; TYLCThV; SLCV; WmCSV; ChaYMV |
| Specificity value | 100% |
| Cross reacts with | |
| Diagnostic Specificity | |
| Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test | 60% |
| Specify the test(s) | From a comparison of samples of known status. The tests was performed by three different laboratories |
| Reproducibility | |

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| Provide the calculated % of agreement for a given level of the pest (see PM 7/98) | 100% |
| Repeatability | |
| Provide the calculated % of agreement for a given level of the pest (see 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 | The TPS was organized in the frame of EURL Virology activities and the 3 laboratories from the EURL consortium participates |
| Other information | |
| Any other information considered useful | The test was successfully used also in testing Bemisia tabaci specimens |

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