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	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 and identification 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 - 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 Molecular LAMP in Leaves - 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 / Begomovirus solanumdelhiense (TOLCND)
Detection / identification	detection and identification
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
As or adapted from an IPPC diagnostic protocol	no
Reference of the test	Luigi et al., 2020
Is the test modified compared to the reference test	no
Kit	
Is a kit used	no
Other information	
Reaction type	Simplex
Performance Criteria :	
Organism 1.:	**Begomovirus solanumdelhiense(TOLCND)**
Analytical sensitivity	
What is the 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	82%
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%
Diagnostic Specificity	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	100%

Specify the test(s)	From a comparison of samples of known status. The tests was performed by three different laboratories
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	96%
Repeatability	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	96%
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 partecipates
Other information	
Any other information considered useful	The test was succesfully used also in testing Bemisia tabaci specimens

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