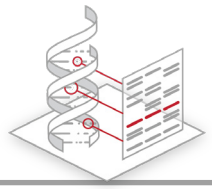
Validation Report: PCR Primers

PCR 95000 • *Dianthovirus* group (Diantho)



Test Characteristics

Test Name	Dianthovirus group	**Format**	RT-PCR Primers
Catalog Number	95000	**Extraction Method**	Nucleic acid extraction
Acronym	Diantho		
Genus	Dianthovirus		

Summary

The Dianthovirus Group PCR primers offer a sensitive diagnostic method to detect members of the Dianthovirus genus of the Tombusviridae family. The primer sequences are based on conserved genome regions and can detect characterized and unassigned members of the Dianthovirus genus.

Analytical Specificity

Inclusivity:

Dianthoviruses[1] Detected:

Virus Name	Species Name
Carnation ringspot virus (CRSV)	Dianthovirus dianthi
Red clover necrotic mosaic virus (RCNMV)	Dianthovirus trifolii
Rice virus X (RVX)[2,3]	N/A
Sweet clover necrotic mosaic virus (SCNMV)	Dianthovirus meliloti
[1]The list above represents viruses that have been shown to be detected by this group PCR test. It also represents viruses that may be detected based on *in silico* analysis. If you have confirmed detection of a predicted virus detection or a virus not on this list, please contact us. We would like to work with you to further validate detection capabilities.	
[2]Predicted detection by *in silico* analysis only	
[3]Rice virus X is a tentative Dianthovirus.	

Dianthoviruses Not Detected:

Virus Name	Species Name
None Known	

Exclusivity:

Cross-reacts With:

Virus Name	Species Name
None Known	

Does Not Cross-react With:

Virus Name	Species Name
None Known	

Agdia, Inc.
52642 County Road 1
Elkhart, IN 46514
574-264-2014 / 800-622-4342
www.agdia.com / info@agdia.com

Selectivity

No Matrix Effect Observed With:

Dianthus leaves	Philodendron leaves		

The hosts on the above list have been chosen to represent those which historically cause a range of matrix effects, in addition to those expected to be screened for this pathogen. Not all plant species susceptible to this pathogen have been screened, but may still be used with this assay unless otherwise noted below. As with all diagnostic tools, Agdia recommends confirming all results with a secondary detection method before making any economic decisions (ex: discarding plants due to positive test results, etc.).

Matrix Effect Observed With:

None Known			

Robustness

Planned deviation analysis:

No deviations from the user guide protocol were validated.

Stability:

	1-year stability (accelerated)	Real-time Stability Verification
Positive Sample (High)	Pass	Monitoring
Positive Sample (High)	Pass	Monitoring
Positive Sample (Low)	Pass	Monitoring
Positive Sample (Low)	Pass	Monitoring
Positive Sample (Low)	Pass	Monitoring
Negative Sample	Pass	Monitoring
Negative Sample	Pass	Monitoring
Negative Sample	Pass	Monitoring

Glossary

Diagnostic sensitivity[1]: The percentage of positive samples correctly identified in an experiment with known positive controls.

Diagnostic specificity[1]: The percentage of negative samples correctly identified in an experiment with known negative controls.

Analytical sensitivity[3]: The smallest amount of target that can be detected reliably (this is sometimes referred to as the 'limit of detection')

Analytical specificity[3]: (comprises inclusivity and exclusivity)

Inclusivity[3]: The performance of a test with a range of target isolates covering genetic diversity, different geographical origin and/or hosts associated with the target organism.

Exclusivity[3]: The performance of a test with a range of non-targets (e.g. cross-reaction with closely related organisms, contaminants)

Selectivity[2]: The level of effect that matrices and relevant plant parts have on the performance of the assay.

Repeatability[2]: The agreement between test replicates of the same sample tested by the same operator.

Reproducibility[3]: The ability of a test to provide consistent results when applied to aliquots of the same sample tested under different conditions (e.g. time, users, equipment, location)

Robustness[1,3]: The extent to which varying test conditions (e.g. temperature, volume, change of buffers) affect the established test performance values. May also be referred to as planned deviation analysis.

Stability[1]: The performance of test reagents or controls over time.

References:

[1]Groth-Helms, D., Rivera, Y., Martin, F. N., Arif, M., Sharma, P., Castlebury, L. A. (in press). Terminology and Guidelines for Diagnostic Assay Development and Validation: Best Practices for Molecular Tests. PhytoFrontiers.
[2]Eads, A., Groth-Helms, D., Davenport, B., Cha, X., Li, R., Walsh, C., Schuetz, K., (in press). The Commercial Validation of Three Tomato Brown Rugose Fruit Virus Assays. PhytoFrontiers.
[3]EPPO (2018) PM 7/76 (5) Use of EPPO Diagnostic Standards, EPPO Bulletin 48, 373– 377.

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