Validation Report: ELISA

PSA/SRA 49501 • *Tobacco etch virus* (TEV)

Test Characteristics

Test Name	Tobacco etch virus	**Capture Antibody**	Polyclonal (Rabbit)
Catalog Number	49501	**Detection Antibody**	Polyclonal (Rabbit)
Acronym	TEV	**Format**	DAS-ELISA
Genus	Potyvirus	**Diluents**	GEB/ECI
		Sample Dilution	1:10

Summary

This ELISA test is a qualitative serological assay for the detection of Tobacco etch virus> (TEV) in ornamental and vegetable leaves. TEV is a member of the Potyvirus genus known for their non-enveloped, flexuous, filamentous virus particles.

Diagnostic Sensitivity

True Positives	35
Correct Diagnoses	35
Percent	100%

Analytical Sensitivity

Limit of Detection: 1:64,800 dilution of infected tissue (pathogen titer unknown)

Analytical Specificity

Inclusivity:

Isolates and Geographic Regions Detected:

TEV-HAT (Highly Aphid Transmitted)	TEV-Mex21 (Mexico)
TEV-N (USA)	TEV-NAT (Not Aphid Transmitted)
TEV PV-69 (WI, USA)	TEV PV-364
TEV-UM (MD, USA)	

Exclusivity:

Cross-reacts With:

Pepper mottle virus (PepMoV)	Pepper veinal mottle virus (PVMV)
Potato virus Y (PVY)[1]	Potato virus Y-necrotic strain (PVY-n)[2]
Tobacco vein mottling virus (TVMV)	
[1]Cross-reaction observed with PVY in 2 out of 4 samples with limited data set, including samples of PVY-n.	
[2]Cross-reaction observed with PVY-n in 1 out of 2 samples with limited data set.	

Does Not Cross-react With:

Alfalfa mosaic virus (AMV)	Broad bean wilt virus-1 (BBWV-1)
Broad bean wilt virus-2 (BBWV-2)	Cucumber mosaic virus (CMV)
Pepino mosaic virus (PepMV)	Pepper mild mottle virus (PMMoV)

Does Not Cross-react With:

Potato virus Y (PVY)[1]	Potato virus Y-necrotic strain (PVY-n)[2]
Tobacco mosaic virus (TMV)	Tobacco ringspot virus (TRSV)
Tomato mosaic virus (ToMV)	Tomato ringspot virus (ToRSV)
Tomato spotted wilt virus (TSWV)	
[1]No cross-reaction observed with PVY in 2 out of 4 samples with limited data set, including samples of PVY-n.	
[2]No cross-reaction observed with PVY-n in 1 out of 2 samples with limited data set.	

Diagnostic Specificity

True Negatives	67
Correct Diagnoses	67
Percent	100%

Selectivity:

No Matrix Effect Observed With:			
African Violet leaves	Chrysanthemum leaves	Pepper leaves	Petunia leaves
Tobacco leaves	Tomatillo leaves	Tomato leaves	