

Validation Report: ELISA

PSA/SRA 39300 • *Tomato spotted wilt virus (TSWV)*



Test Characteristics

| | | | |
|-----------------------|---------------------------|---------------------------|--------------------|
| Test Name | Tomato spotted wilt virus | Capture Antibody | Monoclonal (Mouse) |
| Catalog Number | 39300 | Detection Antibody | Monoclonal (Mouse) |
| Acronym | TSWV | Format | DAS-ELISA |
| Genus | Orthospovirus | Diluents | GEB/ECI |
| | | Sample Dilution | 1:10 |

Summary

This ELISA test is a qualitative serological assay for the detection of Tomato spotted wilt virus (TSWV) in tomato and pepper leaves as well as other ornamental and vegetable species. TSWV is a member of the Orthospovirus genus known for their enveloped, spherical-shaped virus particles.

Diagnostic Sensitivity

| | |
|--------------------------|------|
| True Positives | 80 |
| Correct Diagnoses | 80 |
| Percent | 100% |

Analytical Sensitivity

Limit of Detection: 1:24,300 dilution of infected tissue (pathogen titer unknown)

Analytical Specificity

Inclusivity:

Isolates and Geographic Regions Detected:

| | |
|--------------------------|--------------------|
| TSWV Brazil isolate | TSWV Italy isolate |
| TSWV New Zealand isolate | TSWV Spain isolate |
| TSWV USA isolate | |

Exclusivity:

Cross-reacts With:

| | |
|--|---------------------------------|
| Alstroemeria necrotic streak virus (ANSV) ¹ | Groundnut ringspot virus (GRSV) |
| Tomato chlorotic spot virus (TCSV) | |

¹ANSV has been externally reported to be detected in [2017](#) and [2019](#).

Does Not Cross-reacts With:

| | |
|------------|--|
| None known | |
|------------|--|



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Diagnostic Specificity

True Negatives 75
Correct Diagnoses 75
Percent 100%

Selectivity:

| No Matrix Effect Observed With: | | | |
|---------------------------------|--------------------|-----------------|------------------|
| Alstroemeria leaves | Bean leaves | Beet roots | Blueberry leaves |
| Cucumber leaves | Cymbidium leaves | Dianthus leaves | Eggplant leaves |
| Hosta leaves | Impatiens leaves | Nandina leaves | Papaya leaves |
| Pepper leaves | Petunia leaves | Potato leaves | Soybean leaves |
| Strawberry leaves | Strawflower leaves | Tobacco leaves | Tomato leaves |
| Watermelon leaves | | | |



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