

Validation Report: ELISA

SRA 24300 • *Nemesia ring necrosis virus* (NeRNV)



Test Characteristics

Test Name	Nemesia ring necrosis virus	Capture Antibody	Polyclonal (Rabbit)
Catalog Number	24300	Detection Antibody	Polyclonal (Rabbit)
Acronym	NeRNV	Format	DAS-ELISA
Genus	Tymovirus	Diluents	GEB3/MRS
		Sample Dilution	1:10

Summary

This ELISA test is a qualitative serological assay for the detection of Nemesia ring necrosis virus (NeRNV) in ornamental species. NeRNV is a member of the Tymovirus genus known for their non-enveloped, icosahedral, and isometric virus particles.

Sensitivity

Diagnostic Sensitivity:

True Positives	163
Correct Diagnoses	160
Percent	98.2%

Analytical Sensitivity:

Limit of Detection 1:648,000 dilution of infected tissue (pathogen titer unknown)

Analytical Specificity

Inclusivity:

This assay was designed to detect all strains and isolates of NeRNV. One hundred sixty distinct samples of NeRNV, representing 146 different hosts, have been experimentally proven to be detected including samples of PV-0630 and PV-0631 from Germany and Israel, respectively.

Exclusivity:

Cross-reacts With:

Scrophularia mottle virus (ScrMV)	
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Does Not Cross-react With:

Alfalfa mosaic virus (AMV)	Pelargonium flower break virus (PFBV)
Arabis mosaic virus (ArMV)	Potato virus Y (PVY)
Bean common mosaic virus (BCMV)	Prunus necrotic ringspot virus (PNRSV)
Bean pod mottle virus (BPMV)	Ribgrass mosaic virus (RMV)
Broad bean wilt virus-2 (BBWV-2)	Tobacco mosaic virus (TMV)
Calibrachoa mottle virus (CbMV)	Tobacco ringspot virus (TRSV)
Cucumber mosaic virus (CMV)	Tobacco streak virus (TSV)
Chrysanthemum virus B (CVB)	Tomato aspermy virus (TAV)
Impatiens necrotic spot virus (INSV)	Tomato mosaic virus (ToMV)
Lettuce mosaic virus (LMV)	Tomato ringspot virus (ToRSV)
Pepper Mottle virus (PepMoV)	Tomato spotted wilt virus (TSWV)



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Page 1 of 3

Diagnostic Specificity

True Negatives 1170
 Correct Diagnoses 1160
 Percent 99.1%

Selectivity:

No Matrix Effect Observed With:			
Abelia leaves	Crassula radicans leaves	Ipomoea leaves	Pulmonaria leaves
Abutilon leaves	Crassula tetragona leaves	Iresine leaves	Purslane ⁹ leaves
Acalypha leaves	Cuphea leaves	Jamesbrittenia leaves	Sagina leaves
Aeonium leaves	Dahlia ⁴ leaves	Kalanchoe leaves	Salvia leaves
Agastache leaves	Delosperma leaves	Lamium leaves	Salvia signum leaves
Ageratum ¹ leaves	Dianthus leaves	Lampranthus blandus leaves	Sambucus leaves
Ajuga leaves	Diascia leaves	Lantana leaves	Sanvitalia leaves
Alternanthera leaves	Dracaena leaves	Lavandula leaves	Scabasia leaves
Anagallis leaves	Duetzia leaves	Lavandula stoechas leaves	Scaevola leaves
Angelonia leaves	Duranta leaves	Leucanthemum ⁶ leaves	Scoparia leaves
Anisoedentia leaves	Echeveria leaves	Lobelia leaves	Sedeveria leaves
Argyranthemum leaves	Echinacea leaves	Lynchnis leaves	Sedum leaves
Artemisia leaves	Erodium leaves	Lysimachia leaves	Senecio mandris leaves
Aster leaves	Erysimum leaves	Magilla leaves	Senecio vitalis leaves
Asteriscus leaves	Euonymus leaves	Marjoram leaves	Sesleria leaves
Bacopa leaves	Euphorbia leaves	Mecardonia leaves	Stachys leaves
Begonia ² leaves	Euryops leaves	Monarda leaves	Strobilantha leaves
Bergenia leaves	Felicia leaves	Nemesia ⁷ leaves	Superbena leaves
Bidens leaves	Fuchsia ⁵ leaves	New Guinea impatiens leaves	Supermint leaves
Brachycome leaves	Gaura leaves	Nieremberia leaves	Supertunia leaves
Bracteantha leaves	Geranium leaves	Nolana leaves	Sutera leaves
Calibrachoa ³ leaves	Geum leaves	Oenonthera leaves	Syncolostemon leaves
Calylophus leaves	Glechoma leaves	Osteospermum ⁸ leaves	Tapien leaves
Campanula leaves	Graptopetalum leaves	Otacanthus leaves	Temari leaves
Caryopteris leaves	Gypsophilia leaves	Oxalis leaves	Teucrium leaves
Centaurea leaves	Hedera helix leaves	Patchouli leaves	Tiarella leaves
Chrysanthemum leaves	Helichrysum leaves	Pelargonium leaves	Tolmiea leaves
Chrysocephalum leaves	Heliopsis leaves	Pennisetum leaves	Torenia leaves
Cleome leaves	Heliotropium leaves	Penstemon leaves	Trifolium leaves
Coleus leaves	Heuchera leaves	Pentas leaves	Verbascum leaves
Colocasia leaves	Heucherella leaves	Pentas Lavander leaves	Verbena leaves
Coreopsis leaves	Hibiscus leaves	Petunia leaves	Veronica leaves
Cotinus leaves	Hydrangea leaves	Phlox leaves	Vinca leaves
Crassula coccinea leaves	Iberis leaves	Physocarpus leaves	Viola leaves
Crassula muscosa leaves	Ilex leaves	Plectranthus leaves	Weigela leaves



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Crassula ovata leaves	Impatiens leaves	Polemonium leaves	
Crassula pellucida leaves	lochroma leaves	Portulaca leaves	
¹ False positive observed in 1 out of 2 samples of Ageratum			
² False positive observed in 1 out of 17 samples of Begonia			
³ False positive observed in 1 out of 45 samples of Calibrachoa			
⁴ False positive observed in 2 out of 24 samples of Dahlia			
⁵ False positive observed in 1 out of 45 samples of Fuchsia			
⁶ False positive observed in 1 out of 12 samples of Leucanthemum			
⁷ False positive observed in 1 out of 57 samples of Nemesia			
⁸ False positive observed in 1 out of 75 samples of Osteospermum			
⁹ False positive observed in 1 out of 19 samples of Purslane			

Repeatability

Number of Samples 1170
Replicates per Sample 3
Average Percent Agreement 99.1%
Between Replicates

Reproducibility

Number of Samples 1170
Replicates per Sample 3
Number of Operators 4
Average Percent Agreement 97.5%
Among Operators



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