Validation Report: ELISA

PSA/SRA 23203 • *Arabis mosaic virus* (ArMV)

Test Characteristics

Test Name	Arabis mosaic virus	**Capture Antibody**	Polyclonal (Rabbit)
Catalog Number	23203	**Detection Antibody**	Polyclonal (Rabbit)
Acronym	ArMV	**Format**	DAS-ELISA
Genus	Nepovirus	**Diluents**	GEB/RUB6
		Sample Dilution	1:10

Summary

This ELISA test is a qualitative serological assay for the detection of Arabis mosaic virus (ArMV), the causal agent of Raspberry yellow dwarf disease, in crops including grapevines, hops, raspberry, and strawberry, as well as other fruit, vegetable, and ornamentals. ArMV is a member of the Nepovirus genus known for their transmission by nematodes.

Diagnostic Sensitivity

True Positives	33
Correct Diagnoses	33
Percent	100.0%

Analytical Sensitivity

Limit of Detection: 1:4,860 dilution of infected tissue (pathogen titer unknown)

Analytical Specificity

Inclusivity:

Isolates and Geographic Regions Detected:

ArMV PV-0045	ArMV PV-0046
ArMV PV-0215	ArMV PV-0216 (Denmark)
ArMV Europe isolate	ArMV USA isolate

Exclusivity:

Cross-reacts With:

None known	

Does Not Cross-react With:

Alfalfa mosaic virus (AMV)	Prunus dwarf virus (PDV)
Angelonia flower break virus (AnFBV)	Pelargonium flower break virus (PFBV)
Apple mosaic virus (ApMV)	Pepper mild mottle virus (PMMoV)
Broad bean wilt virus-1 (BBWV-1)	Prunus necrotic ringspot virus (PNRSV)
Broad bean wilt virus-2 (BBWV-2)	Papaya ringspot virus (PRSV)
Beet western yellows virus (BWYV)	Potato virus X (PVX)
Carnation mottle virus (CarMV)	Potato virus Y (PVY)

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Does Not Cross-react With:

Calibrachoa mottle virus (CbMV)	Raspberry bushy dwarf virus (RBDV)
Cherry leaf roll virus (CLRV)	Ribgrass mosaic virus (RMV)
Cucumber mosaic virus (CMV)	Raspberry ringspot virus (RpRSV)
Chrysanthemum B virus (CVB)	Scrophularia mottle virus (ScrMV)
Cymbidium mosaic virus (CymMV)	Strawberry latent ringspot virus (SLRSV)
Cymbidium ringspot virus (CymRSV)	Strawberry mild yellow edge virus (SMYEV)
Dahlia mosaic virus (DMV)	Tobacco etch virus (TEV)
Dasheen mosaic virus (DsMV)	Tobacco mosaic virus (TMV)
Grapevine fleck virus (GFkV)	Tomato aspermy virus (TAV)
Grapevine fanleaf virus (GFLV)	Tomato mosaic virus (ToMV)
Hosta virus X (HVX)	Tomato ringspot virus (ToRSV)
Hibiscus chlorotic ringspot virus (HCRSV)	Tobacco ringspot virus (TRSV)
Impatiens necrotic spot virus (INSV)	Tobacco streak virus (TSV)
Iris yellow spot virus (IYSV)	Tomato spotted wilt virus (TSWV)
Kalanchoe latent virus (KLV)	Watermelon mosaic virus (WMV)
Papaya mosaic virus (PapMV)	

Diagnostic Specificity

True Negatives 2598
Correct Diagnoses 2591
Percent 99.7%

Selectivity:

No Matrix Effect Observed With:			
Abutilon leaves	Coprosma leaves	Lantana leaves	Portulaca leaves
Acalypha leaves	Cordyline leaves	Lavanda Stoecha leaves	Potato leaves
Achilea leaves	Coreopsis leaves	Lavandula leaves	Pulmonaria leaves
Agastache leaves	Corn leaves	Leucanthemum leaves	Raoulia leaves
Ageratum leaves	Cranberry leaves	Ligularia leaves	Rose leaves
Ajuga leaves	Croton leaves	Liptinella leaves	Rubeckia leaves
Aloysia leaves	Cucurbit leaves	Lobelia leaves	Russelia leaves
Alpinazerumbet leaves	Cuphea leaves	Lophospermum leaves	Ruttya frutiola leaves
Alternanthera leaves	Dahlia leaves	Lychis leaves	Sage leaves
Anagallis leaves	Dianthus leaves	Lysimachia[2] leaves	Salvia leaves
Angelonia leaves	Diascia leaves	Mandevilla leaves	Sanchesia leaves
Antirrhinum leaves	Dicentra leaves	Mecardonia leaves	Sanvitalia leaves
Arabis leaves	Dichondera leaves	Melapolium leaves	Satokina leaves
Arctotis leaves	Echinecea leaves	Meuhlenbeckia leaves	Scaevola leaves
Argyranthemum leaves	Eranthemum leaves	Mimulus leaves	Scoparia leaves
Arisodontea leaves	Erigiron leaves	Mint leaves	Scutterelaria leaves
Artemesia leaves	Euphorbia leaves	Musa bastoo leaves	Sedum leaves
Artemis leaves	Felecia leaves	Musa zebrina leaves	Senecium leaves

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Aster leaves	Fuchsia leaves	Nastrutium leaves	Seneti leaves
Asteriscus leaves	Gailardia[1] leaves	Nemesia leaves	Sooparia leaves
Aubreta leaves	Garbanzo leaves	Neurogema leaves	Soybean leaves
Bacopa leaves	Gaura leaves	Nicotiana leaves	Stachys leaves
Banana leaves	Gazania leaves	Nierembergia leaves	Strawberry leaves
Basil leaves	Gentiana leaves	Oak leaves	Strepcapella leaves
Bean leaves	Geranium leaves	Ocimum leaves	Strobialanthes leaves
Bearded iris leaves	Gerbera leaves	Oeothera leaves	Superbells leaves
Begonia leaves	Geum leaves	Olive leaves	Superbena leaves
Bell pepper leaves	Glecoma leaves	Onion leaves	Supertunia leaves
Bidens leaves	Grape leaves	Orchid leaves	Surfinia leaves
Bleeding heart leaves	Hedera leaves	Oregano leaves	Sutera leaves
Blueberry leaves	Hedra Helix leaves	Ornamental leaves	Sweet potato leaves
Brachycome leaves	Heleanthus leaves	Osteospermum leaves	Swiss chard leaves
Bracteantha leaves	Heliotropim leaves	Otacantus leaves	Thyme leaves
Brugmansia leaves	Helium leaves	Oxalis leaves	Tiarella leaves
Buddlera leaves	Helycrisium leaves	Pelargonium leaves	Tomato leaves
Calibrachoa leaves	Hemerocalis leaves	Penstemon leaves	Torenia leaves
Calitunia leaves	Herbaceous perenial leaves	Pentas leaves	Trifolium leaves
Camapnula leaves	Hesperozygus leaves	Peony leaves	Verbascum leaves
Canna lily leaves	Heuchera leaves	Pepper[3] leaves	Verbena[4] leaves
Centaurea leaves	Heucherella leaves	Perilla leaves	Veronia leaves
Cerastotigma leaves	Hibiscus leaves	Petunia leaves	Vinca leaves
Cestum leaves	Hosta leaves	Philodendron leaves	Viola leaves
Cherry leaves	Hydragea leaves	Phlox leaves	Watermelon leaves
Chrysanthemum leaves	Impatiens leaves	Phygelius leaves	Weigela leaves
Chrysosephalum leaves	Ipomea leaves	Pineapple leaves	Xanthosoma leaves
Citharexyum leaves	Jalapeno pepper leaves	Pink oak leaves	Zucchini leaves
Cleome leaves	Jamesbritteria leaves	Piricallis leaves	
Coleus leaves	Kalanchoe leaves	Plectranthus leaves	
Colocasia leaves	Lamisastrum leaves	Pogostemon leaves	
Convolvulus leaves	Lamium leaves	Polemorium leaves	

[1]False positive observed in 1 out of 7 samples of Gailardia

[2]False positive observed in 1 out of 20 samples of Lysimachia

[3]False positive observed in 3 out of 51 samples of Pepper

[4]False positive observed in 2 out of 37 samples of Verbena

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