

Validation Report: ELISA

PSA/SRA 87601 • Alfalfa mosaic virus (AMV)



Test Characteristics

Test Name	Alfalfa mosaic virus	Capture Antibody	Polyclonal (Rabbit)
Catalog Number	87601	Detection Antibody	Monoclonal (Mouse)
Acronym	AMV	Format	Compound ELISA
Genus	Alfamovirus	Diluents	GEB/RUB6
		Sample Dilution	1:10

Summary

This ELISA test is a qualitative serological assay for the detection of Alfalfa mosaic virus (AMV) in ornamentals and vegetable leaves. AMV is a member of the Alfamovirus genus known for their bacilliform with a constant diameter of 18 nm viral particles.

Diagnostic Sensitivity

True Positives	22
Correct Diagnoses	22
Percent	100%

Analytical Sensitivity

Limit of Detection: 1:729,000 dilution of infected tissue (pathogen titer unknown)

Analytical Specificity

Inclusivity:

Isolates and Geographic Regions Detected:

AMV-Arl 1 (WI, USA) (Soybean)	AMV-Arl 3 (WI, USA) (Soybean)
AMV-BM 3 (WI, USA) (Kura)	AMV-K2 (WI, USA) (Kura)
AMV-K5 (WI, USA) (Kura)	AMV-Lan 2 (WI, USA) (Soybean)
AMV-OBT2 (WA, USA) (C. quinoa)	AMV PV-0040
AMV PV-0196 (Potato)	AMV PV-0779 (Germany)
AMV-WI-2 (WA, USA) (Bean)	AMV-WM 1 (WI, USA) (Soybean)
AMV-WM 2 (WI, USA) (Soybean)	AMV-YSC 4 (WI, USA) (Kura)
AMV-0605 103 (WI, USA) (Soybean)	

Exclusivity:

Cross-reacts With:

None known	
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Does Not Cross-react With:

Angelonia flower break virus (AnFBV)	Apple mosaic virus (ApMV)
Arabis mosaic virus (ArMV)	Broad bean wilt virus 1 (BBWV 1)
Broad bean wilt virus 2 (BBWV 2)	Bean pod mottle virus (BPMV)



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Does Not Cross-react With:

Beet western yellows virus (BWYV)	Carnation etched ring virus (CERV)
Carnation mottle virus (CarMV)	Carnation necrotic fleck virus (CNFV)
Calibrachoa mottle virus (CbMV)	Cowpea mosaic virus (CPMV)
Cucumber green mottle mosaic virus (CGMMV)	Cucumber mosaic virus (CMV)
Chrysanthemum virus B (CVB)	Cymbidium mosaic virus (CymMV)
Cymbidium ringspot virus (CymRSV)	Dahlia mosaic virus (DMV)
Dasheen mosaic virus (DsMV)	Hibiscus chlorotic ringspot virus (HCRSV)
Hosta virus X (HVX)	Impatiens necrotic spot virus (INSV)
Iris yellow spot virus (IYSV)	Kalanchoe latent virus (KLV)
Lettuce mosaic virus (LMV)	Maroccan watermelon mosaic virus (MWMV)
Nemesia ring necrosis virus (NeRV)	Odontoglossum ringspot virus (ORSV)
Papaya mosaic virus (PapMV)	Papaya ringspot virus (PRSV)
Pea seed-borne mosaic virus (PSbMV)	Peanut stunt virus (PSV)
Pepper hausteco virus (PHV)	Pepper mild mottle virus (PMMoV)
Pepper mottle virus (PepMoV)	Pepper veinal mosaic virus (PVMV)
Pepino mosaic virus (PepMV)	Pelargonium flower break virus (PFBV)
Peru tomato mosaic virus (PTV)	Potato Acuba mosaic virus (PaMV)
Potato black ringspot virus (PBRV)	Potato latent virus (PotLV)
Potato leafroll virus (PLRV)	Potato virus A (PVA)
Potato virus S (PVS)	Potato virus X (PVX)
Potato virus Y (PVY)	Potato yellow dwarf virus (PYDV)
Prunus dwarf virus (PNRSV)	Poinsettia mosaic virus (PnMV)
Potyvirus (Poty)	Ribgrass mosaic virus (RMV)
Scrophularia mottle virus (ScrMV)	Southern bean mosaic virus (SBMV)
Soybean dwarf virus (SbDV)	Soybean mosaic virus (SMV)
Sunn-hemp mosaic virus (SHMV)	Tomato aspermy virus (TAV)
Tobacco etch virus (TEV)	Tobacco mosaic virus (TMV)
Tobacco mosaic virus, common strain (TMV-c)	Tobacco necrosis virus (TNV)
Tobacco rattle virus (TRV)	Tobacco ringspot virus (TRSV)
Tobacco streak virus (TSV)	Tomato chlorosis virus (ToCV)
Tomato golden mosaic virus (TGMV)	Tomato golden necrosis virus (TGNV)
Tomato infectious chlorosis virus (TICV)	Tomato mild mottle virus (TMMV)
Tomato mosaic virus (ToMV)	Tomato ringspot virus (ToRSV)
Tomato spotted wilt virus (TSWV)	Tomato yellow curl leaf virus (TYCLV)
Watermelon mosaic virus (WMV)	

Diagnostic Specificity

True Negatives 1,042
Correct Diagnoses 1,027
Percent 98.6%



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Selectivity:

No Matrix Effect Observed With:			
Abutilon leaves	Acalypha leaves	Achilea leaves	Agastache leaves
Agerantum leaves	Ajuga leaves	Aloysia leaves	Alpina zerumbet leaves
Alternanthera leaves	Anagalis leaves	Angelonia leaves	Anthurium leaves
Arctotis leaves	Argyranthemum leaves	Arisodoneta leaves	Artemis leaves
Artemisia leaves	Aster leaves	Asteriscus leaves	Aubreta leaves
Bacopa leaves	Basil leaves	Bearded Iris leaves	Begonia leaves
Bidens leaves	Bleeding heart leaves	Blueberry leaves	Brachycome leaves
Bracteantha leaves	Buddlera leaves	Calibrachoa leaves	Calitunia leaves
Camapnula leaves	Canna leaves	Canna Lily leaves	Centaurea leaves
Cerastotigma leaves	Cestum leaves	Cherry leaves	Chrysanthemum leaves
Chrysocephalum leaves	Citharexyum leaves	Cleome leaves	Coleus leaves
Convolvulus leaves	Coprosma leaves	Coreopsis leaves	Cranberry leaves
Croton leaves	Cuphea leaves	Dahlia leaves	Dianthus leaves
Diascia leaves	Dicentra leaves	Dichondera leaves	Echinecea leaves
Echinecea tissue cultures	Eranthemum leaves	Euphorbia leaves	Felicia leaves
Fuchsia leaves	Gailardia leaves	Garbanzo leaves	Gaura leaves
Gazania leaves	Gentiana leaves	Geranium leaves	Gerbera leaves
Geum leaves	Glecoma leaves	Grape leaves	Hedera leaves
Heleanthus leaves	Heliotropim leaves	Helium leaves	Helycrisium leaves
Hemerocalis leaves	Heuchera leaves	Heucherella leaves	Hibiscus leaves
Hosta leaves	Hydrangea leaves	Impatiens leaves	Ipomoea leaves
Jamesbritteria leaves	Kalanchoe leaves	Lamisastrum leaves	Lamium leaves
Lantana leaves	Leuchanthemum leaves	Ligularia leaves	Liptinella leaves
Lobelia leaves ¹	Lychis leaves	Lysimachia leaves ²	Melapolium leaves
Mercadonia leaves	Meuhlenbeckia leaves	Mint leaves	Nastrutium leaves
Nemesia leaves	Neurogema leaves	New Guinea Impatiens leaves	Nicotiana leaves
Oenothera leaves ³	Olive leaves	Onion leaves	Orchid leaves
Oregano leaves	Osteospermum leaves	Otacantus leaves ⁴	Oxalis leaves
Pelargonium leaves	Penstemom leaves	Pentas leaves	Peony leaves
Pepper leaves ⁵	Perilla leaves	Petunia leaves	Philodendron leaves
Phlox leaves	Phygelius leaves	Pineapple leaves	Plectranthus leaves
Pogostemon leaves	Polemorium leaves	Portulaca leaves	Potato tissue cultures
Raoulia leaves	Rose leaves	Rubeckia leaves	Ruttya frutiola leaves
Sage leaves	Salvia leaves	Sanvitalia leaves	Satokina leaves
Scaevola leaves	Scutlerelaria leaves	Sedum leaves	Senecium leaves
Seneti leaves	Stachys leaves	Strawberry leaves	Strepcapella leaves
Strobialanthes leaves	Suberbells leaves	Superbena leaves	Supertunia leaves ⁶
Surfinia leaves ⁷	Sutera leaves	Swiss chard leaves	Thyme leaves
Tomato leaves	Torenia leaves	Trifolium leaves	Verbena leaves
Veronia leaves	Vinca leaves	Viola leaves	Watermelon leaves



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No Matrix Effect Observed With:			
Weigela leaves	Zucchini leaves		
¹ False positive observed in 1 out of 12 samples of Lobelia			
² False positive observed in 1 out of 11 samples of Lysimachia			
³ False positive observed in 1 out of 3 samples of Oenothera			
⁴ False positive observed in 1 out of 5 samples of Otacantus			
⁵ False positive observed in 8 out of 36 samples of Pepper			
⁶ False positive observed in 2 out of 10 samples of Supertunia			
⁷ False positive observed in 1 out of 1 sampels of Surfina			



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