

Validation report

DAS-ELISA ArMV

Article No.: 120377 (ArMV Complete kit 96) / 120375 (ArMV Complete kit 480) / 120372 (ArMV Complete kit 960)

General information:

Target Pathogen	ArMV (Arabidopsis mosaic virus)
Genus	<i>Nepovirus</i>
Method	DAS-ELISA

Technical information:

Antibodies	Polyclonal antibodies developed against an ArMV isolate from grapevine
Sampling	Leaf samples: 1:20 (w/v) in extraction buffer "general" Grapevine leaf samples: 1:10 (w/v) in extraction buffer "Grapevine"
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized ArMV infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf, sprouting buds, bark (phloem)
Tested species infected	<i>Vitis vinifera</i> (Grapevine) <i>Chenopodium quinoa</i> (Quinoa) <i>Fragaria</i> (Strawberry)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	89
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	>100
Detected isolates / geographic regions (Inclusivity)	782 (Switzerland, Quinoa) 920 (Switzerland, Quinoa) H138 Chardonnay (France, Grapevine) T62 Chardonnay Lornet (France, Grapevine) J86 Riesling (France, Grapevine) L3 Riesling (France, Grapevine) N152 Tannat (France, Grapevine) P119 Zirock (France, Grapevine) P120 Zirock (France, Grapevine) D7 Chardonnay (France, Grapevine) H133 Chardonnay (France, Grapevine) B813 Chardonnay (France, Grapevine) N37 Cabernet Franc (France, Grapevine) L5 Riesling (France, Grapevine) T68 Chardonnay Lornet (France, Grapevine) D8 Chardonnay (France, Grapevine) C1200 Chardonnay (France, Grapevine) P116 Zirock (France, Grapevine)

	Mys TM (France, Grapevine) T66 Chardonnay Lornet (France, Grapevine) Humagne rouge 8848-9 (Switzerland, Grapevine) Ugni blanc 8085/86 (Switzerland, Grapevine) Sylvaner 11229/30 (Germany, Grapevine) 8819 (Switzerland, Grapevine) 8822 (Switzerland, Grapevine) Morio-Muskat 7/6/4 (Germany, Grapevine) Morio-Muskat 7/6/2 (Germany, Grapevine)
Cross reaction with (Exclusivity)	None known
No cross reaction tested with (Exclusivity)	CaMV (Cauliflower mosaic virus) GFkV (Grapevine fleck virus) GFLV (Grapevine fanleaf virus) GLRaV-1 (Grapevine leafroll-associated virus 1) GLRaV-3 (Grapevine leafroll-associated virus 3) PGPV (Grapevine pinot gris virus) PVA (Potato virus A) PVX (Potato virus X) Xcp (<i>Xanthomonas campestris</i> pv. <i>perlargonii</i>)
No matrix effect observed with (Selectivity)	<i>Vitis vinifera</i> (Grapevine) <i>Chenopodium quinoa</i> (Quinoa) <i>Cannabis sativa</i> (Hemp) <i>Pelargonium</i> (Geranium) <i>Prunus persica</i> (Peach) <i>Fragaria</i> (Strawberry)

Sensitivity:

Diagnostic sensitivity	100%
Analytical Sensitivity / LoD	10 ⁻³ dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	ArMV on leaves of grapevine: 1:1'250 dilution ArMV on canes of grapevine: 1:1'250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	2009
External validation	PT every 2 years (Germany)
Reproducibility	100%
Repeatability	100%
Validation information	Every two years BIOREBA participates with ArMV reagents on an external proficiency test (PT). Internally, the reagents have been validated with the BIOREBA isolate collection.

Validation release Date:
September, 07th, 2022

QC manager:



Version: 3 – 30.06.2023 – Information about sensitivity on host matrix and limit of detection (LoD) added.