

Validation report

DAS-ELISA ArMV+GFLV

Article No.: 120278 (ArMV+GFLV Complete kit 96) / 120276 (ArMV+GFLV Complete kit 480) / 120273 (ArMV+GLV Complete kit 960)

General information:

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

Technical information:

Antibodies	Poly- and monoclonal antibodies developed against ArMV and GFLV isolates 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 and GFLV 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)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	69
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	>100
Detected isolates / geographic regions (Inclusivity)	<p><u>ArMV:</u> 782 (Switzerland, Quinoa) Humagne rouge 8848-9 (Switzerland, Grapevine) Sylvaner 11229/30 (Germany, Grapevine) Ugni blanc 8085/86 (Switzerland, Grapevine) 8852 Arvine (Switzerland, Grapevine) 8819 Chasselas (Switzerland, Grapevine)</p> <p><u>GFLV:</u> 837 1984 Fully (Switzerland, Quinoa) 1128 Domaine de Seguret (France, Grapevine) Chardonnay (Switzerland, Grapevine) 8087 Chardonnay (Switzerland, Grapevine) 8673-75 Chardonnay (Switzerland, Grapevine) 7784 Rebe de Diolly (Switzerland, Grapevine) A02 (Germany, Grapevine)</p>

	A03 (Germany, Grapevine) A12 (Germany, Grapevine) 11074 Chasselas (Switzerland, Grapevine) 8646 Gamay (Switzerland, Grapevine) ArMV + GFLV: 920 (Switzerland, Quinoa)
Cross reaction with (Exclusivity)	None known
No cross reaction tested with (Exclusivity)	GFKV (Grapevine fleck virus) GLRaV-1 (Grapevine leafroll-associated virus 1) GLRaV-3 (Grapevine leafroll-associated virus 3) GLRaV-1+3 (Grapevine leafroll-associated virus 1+3) GPGV (Grapevine pinot gris virus) PDV (Prune dwarf virus)
No matrix effect observed with (Selectivity)	<i>Vitis vinifera</i> (Grapevine) <i>Chenopodium quinoa</i> (Quinoa)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10 ⁻³ – 10 ⁻⁴ 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: 1:1'1250 dilution GFLV on leaves of grapevine: 1:31'250 dilution GFLV 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+GFLV mix reagents on an external proficiency test (PT). Internally, the reagents have been validated with the BIOREBA isolate collection.

Validation release Date:
September, 19th, 2022

QC manager:



Version: 2 – 01.09.2023 – Information about sensitivity on host matrix and limit of detection (LoD) added.