

Validation report

DAS-ELISA GFkV

Article No.: 120678 (GFkV Complete kit 96) / 120676 (GFkV Complete kit 480) / 120673 (GFkV Complete kit 960)

General information:

Target Pathogen	GFkV (Grapevine fleck virus) / <i>Maculavirus vitis</i>
Genus	<i>Maculavirus</i>
Method	DAS-ELISA

Technical information:

Antibodies	Polyclonal and monoclonal antibodies developed against an GFkV isolate from <i>vitis rupestris</i> "St. Georges".
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 GFkV infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf, sprouting buds, bark (phloem)
Tested species infected	<i>Vitis rupestris</i> (Wild grape / Sand grape / Rock grape) <i>Vitis vinifera</i> (Grapevine)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	57
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	>100
Detected isolates / geographic regions (Inclusivity)	GFkV LPAM 96-20 (Switzerland, Grapevine) GFkV LPAM 96-40 (Switzerland, Grapevine) GFkV LPAM 96-42 (Switzerland, Grapevine) GFkV LPAM Y-200 (Switzerland, Grapevine) GFkV 290909 Pinot noir (Switzerland, G-vine) GFkV 9013 Räuschling (Switzerland, Grapevine) GFkV 10162-42 Räuschling (Switzerland, G-vine) GFkV 12470-71 Variant A+B/2 (US, Grapevine) GFkV 12465-69 Variant C/9 (US, Grapevine) GFkV PV44 12105-111 (France, Grapevine) GFkV 9014-15 Räuschling (Switzerland, G-vine) GFkV R/DLR05-A08 (Germany, Grapevine) GFkV 11969-71 Cabernet (Switzerland, G-vine) GFkV 31939 Amigne (Switzerland, Grapevine) GFkV 31940 Amigne (Switzerland, Grapevine) GFkV 37074 Amigne (Switzerland, Grapevine) GFkV 12037-12046 Räuschl. (Switzerl., G-vine) GFkV #6186-3-HU 8939 (Hungary, Grapevine)

	GFkV R/DLR08-A09 (Germany, Grapevine) GFkV R/DLR08-A10 (Germany, Grapevine) GFkV R/DLR10-A03 (Germany, Grapevine) GFkV R/DLR10-A04 (Germany, Grapevine) GFkV R/DRL10-A12 (Germany, Grapevine) GFkV PT2022/01-E03 (Germany, Grapevine) GFkV PT2022/01-E04 (Germany, Grapevine) GFkV PT2022/01-E12 (Germany, Grapevine) GFkV PT2024/01-A04 (Germany, Grapevine) GFkV PT2024/01-A06 (Germany, Grapevine) GFkV PT2024/01-A07 (Germany, Grapevine) GFkV PT2024/01-A08 (Germany, Grapevine) GFkV St. George P13 9508 (Switzerl., G-vine)
Cross reaction with (Exclusivity)	None known
No cross reaction tested with (Exclusivity)	ArMV (Arabidopsis mosaic virus) CMV (Cucumber mosaic virus) ErLV (Erysimum latent virus) GFLV (Grapevine fanleaf virus) GLRaV-1 (Grapevine leafroll-associated virus 1) GLRaV-1+3 (Grapevine leafroll-assoc. virus 1+3) GLRaV-2 (Grapevine leafroll-associated virus 2) GLRaV-3 (Grapevine leafroll-associated virus 3) GLRaV-4 strain 6 (Grapev. leafroll-assoc. virus 4 strain 6) GPGV (Grapevine pinot gris virus) GVA (Grapevine virus A) PLRV (Potato leafroll virus) PMMoV (Pepper mild mottle virus) PPV (Plum pox virus) PVA (Potato virus A) PVM (Potato virus M) PVX (Potato virus X) SLRSV (Strawberry latent ringspot virus) Sss (<i>Spongospora subterranea</i> sp. <i>subterranea</i>) ToRSV (Tomato ringspot viurs) TuMV (Turnip mosaic virus)
No matrix effect observed with (Selectivity)	<i>Vitis vinifera</i> (Grapevine)

Sensitivity:

Diagnostic sensitivity	100%
Analytical Sensitivity / LoD	10 ⁻³ dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	GFkV on leaves of grapevine: 1:6'250 dilution GFkV on canes of grapevine: 1:1'250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	1998, 2009 (last internal validation)
External validation	PT every 2 years (Germany)
Reproducibility	100%
Repeatability	100%

Validation information

Every two years BIOREBA participates with GfKv reagents on an external proficiency test (PT).

Internally, the reagents have been validated with the BIOREBA isolate collection.

Validation release Date:
July 17th, 2024

QC manager:

**BIOREBA**

Version: 1 – 17.07.2024