Validation report

DAS-ELISA CGMMV

Article No.: 160777 (CGMMV Complete kit 96) / 160775 (CGMMV Complete kit 480) / 160772 (CGMMV Complete kit 960)

General information:

Target Pathogen	CGMMV (Cucumber green mottle mosaic virus)
Genus	*Tobamovirus*
Method	DAS-ELISA

Technical information:

Antibodies	Polyclonal antibodies developed against a CGMMV isolate from cucumber (origin: Germany)
Sampling	Leaf samples: 1:20 (w/v) in extraction buffer "general" Seed samples: 1:10 (w/v) in extraction buffer "general"
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized CGMMV infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf, seed Seed transmittable / mechanical transmittable
Tested species infected	*Citrullus lanatus* (Watermelon) *Cucumis sativus* (Cucumber) *Cucumis metuliferus* (Cucumber) *Cucumis melo* (Melon) *Cucurbita* (Pumpkin) *Cucurbita pepo* (Squash, Zucchini) *Lagenaria siceraria* (Bottle gourd)

Specificity:

Analytical Specificity	95%
Number of tested samples from target organism (True Positives)	57
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	29
Detected isolates / geographic regions (Inclusivity)	MH271407 / CG001 (USA, 2013) MH271408 / CG002 (USA, 2014) MH271409 / CG003 (USA, 2014) MH271410 / CG004 (USA, 2014) MH271412 / CG006 (Israel) MH271413 / CG007 (Europe) MH271414 / CG008 (Europe) MH271415 / CG009 (Europe) MH271416 / CG010 (Europe) MH271417 / CG011 (Europe) MH271418 / CG012 (Europe) MH271419 / CG013 (Europe)

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	MH271420 / CG014 (Europe) MH271421 / CG015 (Europe) MH271424 / CG019 (Asia) MH271425 / CG020 (Europe) MH271426 / CG021 (Europe) MH271427 / CG022 (Europe) MH271428 / CG023 (Europe) MH271430 / CG025 (Latvia) MH271431 / CG026 (France) MH271432 / CG027 (France) MH271433 / CG028 (Bulgaria) MH271434 / CG029 (Greece) MH271435 / CG030 (Greece) MH271436 / CG031 (Netherlands) MH271437 / CG032 (Russia) MH271438 / CG033 (Netherlands) MH271439 / CG034 (Netherlands) MH271440 / CG035 (Kuwait) MH271441 / CG036 (Canada) MH271443 / CG038 (China) MK070867 / WGMMV (Canada, 2018) CDFA (2018) Melon seeds CG002 (USA, 2014) Watermelon seeds CG002 (USA, 2014) PV-1293 (Israel, Cucumber) PV-1294 (Israel, Watermelon) PV-0159 (Unknown) PV-0375 (Germany, Cucumber) Bottle gourd-01 (USA, 2015) Cucumber-01-03 (Switzerland, 2021)
Cross reaction with (Exclusivity)	WGMMV (Watermelon green mottle mosaic virus) ZGMMV (Zucchini Green mottle mosaic virus)
No cross reaction tested with (Exclusivity)	TMV (Tobacco mosaic virus) ToMV (Tomato mosaic virus) ToBRFV (Tomato brown rugose fruit virus) PMMoV (Pepper mild mottle virus) PRSV (Papaya ringspot virus) SqMV (Squash mosaic virus) TYLCV (Tomato yellow leaf curl virus) ZYMV (Zucchini yellow mosaic virus) WMV-2 (Watermelon mosaic virus-2) TYMV (Turnip yellow mosaic virus) RaMV (Radish mosaic virus) CaMV (Cauliflower mosaic virus) PVX (Potato virus X)
No matrix effect observed with (Selectivity)	*Citrullus lanatus* (Watermelon) *Cucumis sativus* (Cucumber) *Cucumis metuliferus* (Cucumber) *Cucumis melo* (Melon) *Cucurbita* (Pumpkin) *Cucurbita pepo* (Squash, Zucchini) *Lagenaria siceraria* (Bottle gourd) *Sinapis* spp. (Mustard)

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Sensitivity:

Analytical Sensitivity / LoD	10^{-6} to 10^{-7}
Sensitivity on host matrix	Cucumber leaves: 10^{-6} Pumpkin seeds: 10^{-5}
Other sensitivity characteristics	PV-1293: 4.3*10^-6 PV-1294: 1.5*10^-6 PV-0159: 6.5*10^-7 PV-0375: 6.5*10^-7

Validation:

Internal validation	01.10.2018 – 30.09.2019 01.08.2021 – 13.10.2021
External validation	01.07.2019 – 30.09.2019 01.10.2021 – 12.10.2021
Reproducibility	100% (BIOREBA)
Repeatability	100% (BIOREBA)
Validation information	One validation was done with our complete kit in an external laboratory testing an isolate collection. One validation was done with external, commercially available isolates (reference material).

Validation release Date:
October, 13th, 2021

QC manager:

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