Validation report

DAS-ELISA MCMV

140777 (MCMV Complete kit 96) / 140775 (MCMV Complete kit 480) / Article No.:

140772 (MCMV Complete kit 960)

General information:

Target Pathogen	MCMV (Maize chlorotic mottle virus)	
Genus	Machlomovirus	
Method	DAS-ELISA	

Technical information:

Antibodies	Polyclonal antibody developed against a MCMV isolate from Kenya in maize plants.
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Sampling	Leaf samples: 1:20 (w/v) in extraction buffer "General" Seed samples: 1:25 (w/v) in extraction buffer "General" Seed lots testing: 100 corn seeds in 100 ml extraction buffer "General". Dry grinding and then add of 100 ml extraction buffer.
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized MCMV infected plant extracts
Working volume	200 μl / well

Host matrix:

Tested plant material	Leaf, Seeds (Maize) Seed transmission is possible. Virus can be transmitted by vectors (beetles and thrips) or mechanically as well.
Tested species infected	Zea mays (Maize)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	74
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	>100
Detected isolates / geographic regions (Inclusivity)	MCMV 11-14 (Kenya, Maize) MCMV 03-15 (Kenya, Maize) MCMV 05-18 (Germany, Maize) MCMV 12-19 (Germany, Maize) MCMV 08-22-1 (Switzerland, Maize) MCMV 08-22-2 (Switzerland, Maize) MCMV 08-22-3 (Switzerland, Maize) MCMV 08-22-4 (Switzerland, Maize) MCMV 08-22-4 (Switzerland, Maize) MCMV SI3-13-1054 (Peru, Maize) MCMV SI3-13-1055 (Peru, Maize) MCMV SI3-13-1082 (Peru, Maize) MCMV SI3-13-1084 (Peru, Maize) MCMV SI3-13-1086 (Peru, Maize) MCMV SI3-13-1090 (Peru, Maize) MCMV SI3-13-117 (Peru, Maize)





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	MCMV SI3-13-1124 (Peru, Maize)
	MCMV SI3-13-1173 (Peru, Maize)
	MCMV SI3-13-1194 (Peru, Maize)
	MCMV SI3-13-1210 (Peru, Maize)
	MCMV SI3-13-1212 (Peru, Maize)
	MCMV SH14-190-6 (US, Maize)
	MCMV SH14-190-7 (US, Maize)
	MCMV SH14-190-8 (US, Maize)
	MCMV SH14-190-9 (US, Maize)
	MCMV SH15-18 (Mexico, Maize)
	MCMV 15-06 (Kenya, Maize seeds)
Cross reaction with (Exclusivity)	None known
	BCMV (Bean common mosaic virus)
	CGMMV (Cucumber green mottle mosaic virus)
	GLRaV-2 (Grapevine leafroll-associated virus 2)
No cross reaction tested with	GPGV (Grapevine pinot gris virus)
(Exclusivity)	MDMV (Maize dwarf mosaic virus)
	MiLBVV (Mirafiori lettuce big-vein virus)
	SCMV (Sugar cane mosaic virus)
	SMV (Soybean mosaic virus)
	Hordeum vulgare (Barley)
No matrix effect observed with	Saccharum officinarum (Sugar cane)
(Selectivity)	Triticum aestivum (Wheat)
	Zea mays (Maize)

Sensitivity:

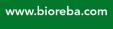
Sensitivity.	
Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10 ⁻³ dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	MCMV on leaves of maize: 1: 6'250 dilution MCMV on seeds of maize: 1:6'250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	2015, 2022 - 2023 (last internal validation)
External validation	Validation by 1 external research partner (Mexico) in 2015.
Reproducibility	100%
Repeatability	100%
Validation information	Internally, the reagents have been validated with the BIOREBA isolate collection composed of various samples collected within the last 10 years.

Validation release Date: January, 19th, 2024 QC manager:

Version: 1 – 19.01.2024



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