

# Validation report

## DAS-ELISA SCMV

Article No.: 140477 (SCMV Complete kit 96) / 140475 (SCMV Complete kit 480) / 140472 (SCMV Complete kit 960)

### General information:

Target Pathogen	SCMV (Sugarcane mosaic virus)
Genus	<i>Potyvirus</i>
Method	DAS-ELISA

### Technical information:

Antibodies	Polyclonal antibodies developed against German isolates of SCMV from maize.
Sampling	Leaf samples: 1:20 (w/v) in extraction buffer "General"
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized SCMV infected plant extracts
Working volume	200 µl / well

### Host matrix:

Tested plant material	Leaf, Seeds (Maize) Transmittable by nature (various aphid species). No seed transmission in true SCMV strains.
Tested species infected	<i>Zea mays</i> (Maize)

### Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	18
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	24
Detected isolates / geographic regions (Inclusivity)	SCMV PV-0368 (Germany, Maize) SCMV PV-0731 (Germany, Maize) SCMV PV-1207 (Ethiopia, Maize) SCMV 091203 (Germany, Maize) SCMV 101114 (Kenya, Maize) SCMV 040315 (Kenya, Maize) SCMV 021219 (Germany, Maize) SCMV 161219 (Germany, Maize)
Cross reaction with (Exclusivity)	<b>Very weak cross reaction tested with:</b> MDMV (Maize dwarf mosaic virus)
No cross reaction tested with (Exclusivity)	BCMV (Bean common mosaic virus) BCMNV (Bean common mosaic necrosis virus) LYSV (Leek yellow stripe virus) LMV (Lettuce mosaic virus) MCMV (Maize chlorotic mottle virus) OYDV (Onion yellow dwarf virus) PPV (Plum pox virus) PRSV (Papaya ringspot virus) PVA (Potato virus A)

	PVY (Potato virus Y)
No matrix effect observed with (Selectivity)	<i>Hordeum vulgare</i> (Barley) <i>Saccharum officinarum</i> (Sugar cane) <i>Zea mays</i> (Maize)

**Sensitivity:**

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10 <sup>-4</sup> dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	SCMV on leaves of maize: 1: 31'250 dilution Pathogen titer unknown
Other sensitivity characteristics	One infected leave from a infected maize plant were mixed with leaves of healthy plants: Infected plant: OD 3.45 Mixed sample 5 plants: OD 3.03 Mixed sample 10 plants: OD 2.66 Mixed sample 25 plants: OD 2.46

**Validation:**

Internal validation	2023 (last internal validation)
External validation	-
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 40 years.

Validation release Date:  
October, 6<sup>th</sup>, 2023

QC manager:



Version: 1 – 06.10.2023