

# Validation report

## DAS-ELISA BCMV

Article No.: 162077 (BCMV Complete kit 96) / 162075 (BMCV Complete kit 480) / 162072 (BMCV Complete kit 960)

### General information:

Target Pathogen	BCMV (Bean Common Mosaic Virus) / <i>Potyvirus phaseovulgaris</i>
Genus	<i>Potyvirus</i>
Method	DAS-ELISA

### Technical information:

Antibodies	Polyclonal antibodies developed against BCMV isolate F506 and isolate PV28 from ATCC New York.
Sampling	Leaf samples: 1:20 (w/v) in extraction buffer "General".
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized BCMV infected plant extracts
Working volume	200 µl / well

### Host matrix:

Tested plant material	Leaf Cross-reactivity observed with bean seeds
Tested species infected	<i>Nicotiana benthamiana</i> (Tobacco) <i>Phaseolus vulgaris</i> (Common bean)

### Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	>100
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	>100
Detected isolates / geographic regions (Inclusivity)	BCMV 1234 (Switzerland, Tobacco) BCMV 1238 (Switzerland, Common bean) BCMV 1238 (Switzerland, Tobacco) BCMV 011020-I (Switzerland, Common bean) BCMV 011020-II (Switzerland, Common bean) BCMV 011020-III (Switzerland, Common bean) BCMV 011020-IV (Switzerland, Common bean) BCMV 080921 (Switzerland, Common bean) BMCV 080921-I (Switzerland, Common bean) BCMV 080921-III (Switzerland, Common bean) BCMV 080921-IV (Switzerland, Common bean) BCMV 080921-V (Switzerland, Common bean) BCMV 062-24 (Switzerland, Common bean) BCMV 064-24 (Switzerland, Common bean) BCMV 031-23 (Switzerland, Common bean) BCMV 043-23 (Switzerland, Common bean) BCMV 047-23 (Switzerland, Common bean) BCMV050-23 (Switzerland, Common bean)

	BCMV 051-23 (Switzerland, Common bean) BCMV 022-22 (Switzerland, Common bean) BCMV 038-24 (Switzerland, Common bean) BCMV 029-21 (Switzerland, Common bean) BCMV 017-20 (Switzerland, Common bean)
<b>Cross reaction with (Exclusivity)</b>	None
<b>No cross reaction tested with (Exclusivity)</b>	AMV (Alfalfa mosaic virus) ASGV (Apple stem grooving virus) BCMNV (Bean common mosaic necrosis virus) CMV (Cucumber mosaic virus) GPGV (Grapevine pinot gris virus) LMV (Lettuce mosaic virus) LYSV (Leek yellow stripe virus) MCMV (Maize chlorotic mottle virus) MDMV (Maize dwarf mosaic virus) OYDV (Onion yellow dwarf virus) PVA (Potato virus A) PVV (Potato virus V) SCMV (Sugarcane mosaic virus) SMV (Soybean mosaic virus) TuMV (Turnip mosaic virus) TMV (Tobacco mosaic virus) TNV (Tobacco necrosis virus) TRSV (Tobacco ringspot virus) TSWV (Tomato spotted wilt virus) TSV (Tobacco streak virus) TYLCV (Tomato yellow leaf curl virus) WMV-2 (Watermelon mosaic virus 2) ZYMV (Zucchini yellow mosaic virus)
<b>No matrix effect observed with (Selectivity)</b>	<i>Chenopodium quinoa</i> (Quinoa) <i>Citrullus lanatus</i> (Watermelon) <i>Cucurbita pepo</i> (Pumpkin) <i>Cucurbita pepo</i> susp. <i>pepo</i> convar. <i>giromontina</i> (Zucchini) <i>Glycine max</i> (Soybean) <i>Nicotiana tabaccum</i> (Tobacco) <i>Phaseolus vulgaris</i> (Common bean) <i>Pisum sativum</i> (Pea) <i>Zea mays</i> (Maize)

**Sensitivity:**

<b>Diagnostic sensitivity</b>	100%
<b>Analytical Sensitivity / LoD</b>	10 <sup>-3</sup> dilution of infected tissue (pathogen titer unknown)
<b>Sensitivity on host matrix</b>	BCMV on bean leaves: 1:6'250 dilution
<b>Other sensitivity characteristics</b>	-

**Validation:**

<b>Internal validation</b>	2022, 2024 (last internal validation)
<b>External validation</b>	2022 (US)
<b>Reproducibility</b>	100%
<b>Repeatability</b>	100%

<b>Validation information</b>	Internally, the reagents have been validated with the BIOREBA isolate collection.
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Validation release Date:  
November 4<sup>th</sup>, 2024

QC manager:



Version: 1 – 04.11.2024

