BIOREBA
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Validation report

DAS-ELISA BNYVV

Article No.: 160177 (BNYVV Complete kit 96) / 160175 (BNYVV Complete kit 480) / 160172 (BNYVV Complete kit 960)

General information:

Target Pathogen	BNYVV (Beet necrotic yellow vein virus / Benyvirus necrobetae)
Genus	*Benyvirus*
Method	DAS-ELISA

Technical information:

Antibodies	Polyclonal antibodies developed against a BNYVV isolate VI-91 which causes "Rhizomania" in sugar beet.
Sampling	Rootlet samples: 1:20 (w/v) in extraction buffer "general". Detection in rootlets (fibrous roots) is the best source for testing. The best time for sampling is in grown rootlets after rainfall or irrigation.
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized BNYVV infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf, rootlet (Fibrous roots), beet Transmission by fungus (Polymyxa betae) and by mechanical transmission.
Tested species infected	*Chenopodium quinoa* (Quinoa) *Beta vulgaris* subsp. *vulgaris* var. *altissima* (Sugar beet) *Nicotiana clevelandii* (Tobacco)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	36
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	22
Detected isolates / geographic regions (Inclusivity)	BNYVV 977 (Switzerland, Sugar beet) BNYVV 977 (Switzerland, Quinoa) BNYVV 191990 (Switzerland, Quinoa) BNYVV 040303 (Switzerland, Quinoa) BNYVV 270503 (Switzerland, Quinoa) BNYVV 030603 (Switzerland, Quinoa) BNYVV 180291 (Switzerland, Tobacco)
Cross reaction with (Exclusivity)	-
No cross reaction tested with (Exclusivity)	BYDV (Barley yellow dwarf virus) MDMV (Maize dwarf mosaic virus)

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	ToMV (Tomato mosaic virus) TSV (Tobacco streak virus)
No matrix effect observed with (Selectivity)	*Chenopodium quinoa* (Quinoa) *Beta vulgaris* subsp. *vulgaris* var. *altissima* (Sugar beet) *Beta vulgaris* subsp. *vulgaris* var. *conditiva* (Beetroot) *Zea mays* (Maize)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10^{-3} to 10^{-4} dilution of infected tissue (pathogen titer unknown).
Sensitivity on host matrix	BNYVV on leaves of quinoa: 1:31'250 dilution BNYVV on leaves of sugar beet: 1:1'250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	1991, 2021 (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 with diverse plant host range, collected within the last 40 years.

Validation release Date:
October 15th, 2026

QC manager:



Version: 1 – 15.10.2026.

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