A CALIBRE SCIENTIFIC COMPANY

BIOREBA

Validation report

DAS-ELISA TBRV

Article No.: 113177 (TBRV Complete kit 96) / 113175 (TBRV Complete kit 480) / 113172 (TBRV Complete kit 960)

General information:

Target Pathogen	TBRV (Tomato black ring virus / Nepovirus nigranuli)
Genus	*Nepovirus*
Method	DAS-ELISA

Technical information:

Antibodies	Complementary polyclonal (isolate of grapevine) and monoclonal antibodies (isolate of potato) to different virus isolates
Sampling	Grapevine: 1:10 (w/v) in extraction buffer "Grapevine". Potato leaf: 1:20 (w/v) in extraction buffer "General". Sprouted potato tubers: 1:10 to 1:20 (w/v) in extraction buffer "Bulbs & Tubers".
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized TBRV infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf, tubers, sprouts, bark (phloem)
Tested species infected	*Chenopodium quinoa* (Quinoa) *Nicotiana clevelandii* (Tobacco) *Nicotiana glutinosa* (Tobacco) *Nicotiana tabacum "Xanthi"* (Tobacco) *Nicotiana tabacum* "White Burley" (Tobacco) *Vitis vinifera* (Grapevine)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	42
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	77
Detected isolates / geographic regions (Inclusivity)	TBRV 1258 (Switzerland, Quinoa) TBRV 1258 (Switzerland, Tobacco) TBRV 11/12-2021 (Switzerland, Quinoa) TBRV VER-17 (Spain, Grapevine) TBRV 18 (Germany, Grapevine) TBRV 40340 (Canada, Grapevine) TBRV 1488-1A2 (Canada, Grapevine) TBRV 1488-1A3 (Canada, Grapevine) TBRV 09 (Germany, Grapevine) TBRV 06 (Switzerland, Quinoa) TBRV 5BB/11987 (Switzerland, Grapevine) TBRV 5BB Cadmann (Switzerland, Grapevine)

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IQNET CERTIFIED MANAGEMENT SYSTEM

	TBRV 11987 (Switzerland, Grapevine) TBRV 01 (Switzerland, Tobacco) TBRV 10-01 (UK, Potato) TBRV 4327 (Switzerland, Grapevine) TBRV CI77/PI43 (Spain, Grapevine) TBRV CI77/PI11 (Spain, Grapevine)
Cross reaction with (Exclusivity)	BRSV (Beet ringspot virus)
No cross reaction tested with (Exclusivity)	ApP (Apple proliferation phytoplasma) ArMV (Arabis mosaic virus) ASGV (Apple stem grooving virus) CLRV (Cherry leaf roll virus) GFLV (Grapevine fanleaf virus) INSV (Impatiens necrotic spot virus) RpRSV (Raspberry ringspot virus) SLRSV (Strawberry latent ringspot virus) TBSV (Tomato bushy stunt virus)
No matrix effect observed with (Selectivity)	*Chenopodium quinoa* (Quinoa) *Prunus persica* (Peach) *Solanum tuberosum* (Potato) *Vitis vinifera* (Grapevine)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10^{-2}-10^{-3} dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	TBRV-p on canes of grapevine: 1:250 dilution TBRV-g on leaves of tobacco: 1:1'250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	2004, 2012, 2016 (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:
June, 13th, 2023

QC manager:

Version: 2 – 28.04.2025 – Additional validation information on analytical sensitivity and sensitivity on host matrix.

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