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BIOREBA

Validation report

DAS-ELISA BYDV-B

Article No.: 140177 (BYDV-B Complete kit 96) / 140175 (BYDV-B Complete kit 480) / 140172 (BYDV-B Complete kit 960)

General information:

Target Pathogen	BYDV-B (Barley yellow dwarf virus-type B / Barley yellow dwarf virus-PAV / *Luteovirus pavhordei*)
Genus	*Luteovirus*
Method	DAS-ELISA

Technical information:

Antibodies	Polyclonal (coat & conjugate) antibodies developed against a BYDV-B (a PAV-like) isolate from UK.
Sampling	Leaf samples: 1:20 (w/v) in extraction buffer "General".
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized BYDV-B infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf Transmission by vectors (*Rhopalosiphum padi* and *Sitobion avenae*).
Tested species infected	*Hordeum vulgare* (Barley)

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)	71
Detected isolates / geographic regions (Inclusivity)	BYDV-B 180106 (Switzerland, Barley) BYDV-B 020207 (Switzerland, Barley) BYDV-B 201008 (Switzerland, Barley) BYDV-B 270109 (Switzerland, Barley) BYDV-B 110309 (Switzerland, Barley) BYDV-B 281111 (Switzerland, Barley) BYDV-B 260314 (Switzerland, Barley) BYDV-B 080922 (Switzerland, Barley) BYDV-B TS-009-19 (Germany, Barley) BYDV-B TS-002-21 (Germany, Barley) BYDV-B TS-019-22 (Germany, Barley) BYDV-B TS-040-22 (Germany, Barley) BYDV-B TS-002-23 (Germany, Barley) BYDV-B TS-022-23 (Germany, Barley) BYDV-B TS-070-23 (Germany, Barley) BYDV Toluca-2021 (Mexico, Barley)

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	BYDV El Batan 2021 (Mexico, Barley) BYDV-GAV (MK012662.1) BYDV-PAS (MK012654.1)
Cross reaction with (Exclusivity)	BYDV-F (Barley yellow dwarf virus-MAV) Cross-reaction with other BYDV- and CYDV-strains cannot be excluded
No cross reaction tested with (Exclusivity)	ACLSV (Apple chlorotic leaf spot virus) ApP (Apple proliferation phytoplasma) ASGV (Apple stem grooving virus) CaMV (Cauliflower mosaic virus) GFLV (Grapevine fanleaf virus) GLRaV-1 (Grapevine leafroll-associated virus 1) GLRaV-2 (Grapevine leafroll-associated virus 2) GLRaV-3 (Grapevine leafroll-associated virus 3) PLRV (Potato leafroll virus) ToANV (Tomato apex necrosis virus) ToRSV (Tomato ringspot virus) WMV-2 (Watermelon mosaic virus 2) Xfr (*Xanthomonas fragariae*)
No matrix effect observed with (Selectivity)	*Hordeum vulgare* (Barley)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10^{-3} dilution of infected tissue (pathogen titer unknown).
Sensitivity on host matrix	BYDV-B on leaves of barley: 1:1'250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	1987, 1998, 2012
External validation	2024: Byrne, S., et al. "The first survey using high-throughput sequencing of cereal and barley yellow dwarf viruses in Irish spring and winter barley crops." *Irish Journal of Agricultural and Food Research* 63.1 (2024): 1-16.
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 30th, 2026

QC manager:



Version: 1 – 30.10.2026.

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