A CALIBRE SCIENTIFIC COMPANY
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Validation report

DAS-ELISA BYDV-F

Article No.: 140277 (BYDV-F Complete kit 96) / 140275 (BYDV-F Complete kit 480) / 140272 (BYDV-F Complete kit 960)

General information:

Target Pathogen	BYDV-F (Barley yellow dwarf virus-type F / Barley yellow dwarf virus-MAV / *Luteovirus mavhordei*)
Genus	*Luteovirus*
Method	DAS-ELISA

Technical information:

Antibodies	Polyclonal (coat & conjugate) antibodies developed against a BYDV-F (a MAV-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-F infected plant extracts
Working volume	200 µl / well

Host matrix:

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

Specificity:

Analytical Specificity	89.55%
Number of tested samples from target organism (True Positives)	60
Diagnostic Specificity	89.55%
Number of tested samples non-target organism (True Negatives)	34
Detected isolates / geographic regions (Inclusivity)	BYDV-F 081208 (Switzerland, Barley) BYDV-F 270109 (Switzerland, Barley) BYDV-F 100209 (Switzerland, Barley) BYDV-F 260314 (Switzerland, Barley) BYDV-F 300414 (Switzerland, Barley) BYDV-MAV SAC1 (Ireland, Barley) BYDV-MAV Wi1 (Ireland, Barley) BYDV-MAV Ti5 (Ireland, Barley) BYDV-MAV La2a (Ireland, Barley) BYDV-MAV Ki5 (Ireland, Barley) BYDV-MAV KK3 (Ireland, Barley) BYDV-MAV La1a1c (Ireland, Barley) BYDV-MAV M5 (Ireland, Barley) BYDV-MAV SBK (Ireland, Barley) BYDV-MAV WB20 (Ireland, Barley) BYDV-MAV Ti3 (Ireland, Barley) BYDV-MAV Wi6 (Ireland, Barley)

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Certified Management System SQS ISO 9001
IQNET CERTIFIED MANAGEMENT SYSTEM

	BYDV-MAV La3RD3 (Ireland, Barley) BYDV-MAV La11J (Ireland, Barley) BYDV-MAV M2 (Ireland, Barley) BYDV-MAV P3F2 (Ireland, Barley) BYDV-MAV P4A8 (Ireland, Barley) BYDV-MAV P4B3 (Ireland, Barley) BYDV-MAV P1H1 (Ireland, Barley) BYDV Toluca-2021 (Mexico, Barley) BYDV El Batan 2021 (Mexico, Barley)
Cross reaction with (Exclusivity)	BYDV-B (Barley yellow dwarf virus-PAV) BYDV-PAS (MK012654.1) Cross-reaction with other BYDV- and CYDV-strains cannot be excluded
No cross reaction tested with (Exclusivity)	APMoV (Andean potato mottle virus) ASPV (Apple stem pitting virus) BNYVV (Beet necrotic yellow vein virus) CLRV (Cherry leaf roll virus) GCLV (Garlic common latent virus) PVS (Potato virus S) PVY (Potato virus Y) RpRSV (Raspberry ringspot virus) Rs (*Ralstonia solanacearum*) SLRSV (Strawberry latent ringspot virus) ToMV (Tomato mosaic virus) TSV (Tobacco streak virus) TYLCV (Tomato yellow leaf curl virus) TYMV (Turnip yellow mosaic virus) ZYMV (Zucchini yellow mosaic virus)
No matrix effect observed with (Selectivity)	*Hordeum vulgare* (Barley)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10^{-2} dilution of infected tissue (pathogen titer unknown).
Sensitivity on host matrix	BYDV-F on leaves of barley: 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.

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October 30th, 2026

QC manager:



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