

Validation report

DAS-ELISA *Verticillium*

Article No.: 161377 (*Verticillium* Complete kit 96) / 161375 (*Verticillium* Complete kit 480) / 161372 (*Verticillium* Complete kit 960)

General information:

Target Pathogen	<i>Verticillium</i>
Genus	<i>Verticillium</i>
Method	DAS-ELISA
Associated diseases	<i>Verticillium</i> wilt

Technical information:

Antibodies	Monoclonal antibodies developed against <i>Verticillium dahlia</i> isolate B2.
Sampling	1:20 (w/v) in extraction buffer "General".
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized <i>Verticillium</i> infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf, root, mycelium, stem
Tested species infected	<i>Acer saccharum</i> (Maple) <i>Apium graveolens</i> (Celery) <i>Artemisia annua</i> (Sweet wormwood) <i>Cannabis sativa</i> (Hemp) <i>Chrysanthemum</i> (Chrysanthemum) <i>Malus domestica</i> (Apple) <i>Pelargonium x hortorum</i> (Geranium) <i>Rosa</i> (Rose) <i>Solanum lycopersicum</i> (Tomato) <i>Solanum tuberosum</i> (Potato)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	59
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	45
Detected strains / geographic regions (Inclusivity)	<i>V. dahliae</i> 060798 (Switzerland, Mycelium) <i>V. dahliae</i> 171209 (Netherlands, Mycelium) <i>V. albo-atrum</i> race 1 LAva37 (Canada, Potato) <i>V. dahliae</i> race 1 LAVd32 (Canada, Potato) <i>V. dahliae</i> race 2 LAVd33 (Canada, Potato) <i>V. dahliae</i> 95-1 (Netherlands, Potato) <i>V. dahliae</i> 95-2 (Netherlands, Rose) <i>V. dahliae</i> 95-3 (Netherlands, Chrysanthemum) <i>V. dahliae</i> 95-4 (Netherlands, Maple)

	<i>V. albo-atrum</i> 95-5 (Netherlands, Potato) <i>V. albo-atrum</i> 95-6 (Netherlands, Tomato) <i>V. tricornis</i> 95-7 (Netherlands, Potato) <i>V. tricornis</i> 95-8 (Netherlands, Apple) <i>V. tricornis</i> 95-9 (Netherlands, Celery) <i>V. tricornis</i> 95-10 (Netherlands, Pelargonium) <i>V. nubilum</i> 95-11 (Netherlands, Potato) <i>Verticillium</i> 131011-1 (Switzerland, <i>A. annua</i>) <i>Verticillium</i> 131011-2 (Switzerland, <i>A. annua</i>) <i>Verticillium</i> 065-23 (Switzerland, Hemp)
Cross reaction with (Exclusivity)	None known
No cross reaction tested with (Exclusivity)	<i>Alternaria</i> sp. <i>Botrytis cinerea</i> <i>Coniothyrium fuckelii</i> <i>Fusarium</i> sp. <i>Penicillium</i> sp. PepMV (Pepino mosaic virus) <i>Phomopsis</i> sp. TSWV (Tomato spotted wilt virus)
No matrix effect observed with (Selectivity)	<i>Pelargonium x hortorum</i> (Geranium) Rosa (Rose) <i>Solanum melongena</i> (Eggplant) <i>Solanum tuberosum</i> (Potato)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10 ⁻³ dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	<i>Verticillium</i> on leaves of <i>artemisia annua</i> : 1:6'250 dilution. Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	1995 (last internal validation)
External validation	Validation by 1 external research partner (Netherlands) in 1995.
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 30 years.

Validation release Date:
July, 16th, 2024

QC manager:



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