A CALIBRE SCIENTIFIC COMPANY

BIOREBA

Validation report

DAS-ELISA Xcp

Article No.: 170177 (Xcp Complete kit 96) / 170175 (Xcp Complete kit 480) / 170172 (Xcp Complete kit 960)

General information:

Target Pathogen	Xcp (*Xanthomonas campestris* pv. *Perlargonii* / *Xanthomonas hortorum* pv. *pelargonii*)
Genus	*Xanthomonas*
Method	DAS-ELISA
Associated diseases	Bacterial leaf spot of pelargonium Bacterial blight of geranium

Technical information:

Antibodies	Polyclonal antibodies developed against Xcp strain multiplied in Switzerland.
Sampling	1:10 (w/v) in extraction buffer "General". Sampling: Stem and petioles at the lower part of the plant
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized Xcp infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf, stems, petioles, bacterial ooze
Tested species infected	*Pelargonium* x *hortorum* (Geranium)

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)	>100
Detected strains / geographic regions (Inclusivity)	Xcp BRD (Germany, Geranium) Xcp 88/5 (Germany, Geranium) Xcp 200219 (Switzerland, Geranium) Xcp 260424 (Switzerland, Geranium) Xcp D (Switzerland, Geranium) Xcp 86/81 (Switzerland, Geranium) Xcp 90/96 (Switzerland, Geranium) Xcp 007-18 (Switzerland, Geranium) Xcp 005-19 (Switzerland, Geranium) Xcp 063-23 (Switzerland, Geranium) Xcp 034-24 (Switzerland, Geranium)
Cross reaction with (Exclusivity)	Xcc (*Xanthomonas campestris* pv. *campestris*)
No cross reaction tested with (Exclusivity)	*Agrobacterium tumefaciens* *ApP (Apple proliferation phytoplasma)* ArMV (Arabis mosaic virus) *Erwinia carotovorum* subsp. *atroseptica* *Erwinia carotovorum* subsp. *carotovorum*

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	Erwinia chrysanthemi *Erwinia herbicola* GPGV (Grapevine pinot gris virus) PFBV (Pelargonium flower break virus) PLPV (Pelargonium line pattern virus) *Pseudomonas cichorii* *Pseudomonas fluorescens* *Pseudomonas syringae* *Rhodococcus fascians* RpRSV (Raspberry ringspot virus) Xanthomonas campestris pv. begoniae
No matrix effect observed with (Selectivity)	*Pelargonium* x *hortorum* (Geranium) *Vitis vinifera* (Grapevine)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10^3 – 10^4 CFU per ml (pure bacteria culture diluted in ELISA extraction buffer) 10^{-5} dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	Xcp on leaves of geranium: 1: 156'250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	1993 (last internal validation)
External validation	Validation by 2 external research partners (Germany) in 1991 and 1994.
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 yeaXcp.

Validation release Date:
July, 12th, 2024

QC manager:

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