

Validation report

DAS-ELISA RpRSV (-ch)

Article No.: 150477 (RpRSV-ch Complete kit 96) / 150475 (RpRSV-ch Complete kit 480) / 150472 (RpRSV-ch Complete kit 960)

General information:

Target Pathogen	RpRSV (Raspberry ringspot virus)
Genus	<i>Nepovirus</i>
Method	DAS-ELISA

Technical information:

Antibodies	Polyclonal antibodies developed against a RpRSV isolate from a sweet cherry tree (Switzerland).
Sampling	Grapevine: 1:10 (w/v) in extraction buffer "Grapevine" Other plants: 1:20 (w/v) in extraction buffer "General" Leaves in the early growing season are the best tissue source. In grapevine mature canes are suitable
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized RpRSV infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf, mature canes, bark (phloem) Transmission by nematodes
Tested species infected	<i>Chenopodium quinoa</i> (Quinoa) <i>Fragaria ananassa</i> (Strawberry) <i>Nicotiana tabacum clevelandii</i> (Tobacco) <i>Petunia atkinsiana</i> (Petunia) <i>Prunus avium</i> (Cherry) <i>Rubus idaeus</i> (Raspberry) <i>Vitis vinifera</i> (Grapevine)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	88
Diagnostic Specificity	99%
Number of tested samples non-target organism (True Negatives)	>100
Detected isolates / geographic regions (Inclusivity)	RpRSV 995 (Quinoa, Switzerland) RpRSV 995 (Cherry, Switzerland) RpRSV 1367 BE 35 (Raspberry, Switzerland) RpRSV 1367 BE 35 (Quinoa, Switzerland) RpRSV 1300 (Cherry, Switzerland) RpRSV 1300 (Quinoa, Switzerland) RpRSV 43126 (Cherry, Switzerland) RpRSV 43127 (Cherry, Switzerland) RpRSV 1H (Cherry, Switzerland) RpRSV 2H (Cherry, Switzerland) RpRSV 3H (Cherry, Switzerland)

	RpRSV 1N (Cherry, Switzerland) RpRSV 2N (Cherry, Switzerland) RpRSV No. 123 (Cherry, Switzerland) RpRSV No. 19 (Grapevine, Germany) RpRSV Silvaner 4/3/2 (Grapevine, Germany) RpRSV Silvaner 4/3/1 (Grapevine, Germany) RpRSV 7 (Tobacco) RpRSV 5 (Tobacco) RpRSV 4 (Tobacco) RpRSV 3 (Petunia) RpRSV 815 (Grapevine) RpRSV 815 (Quinoa) RpRSV Be-533 (Strawberry, Switzerland) RpRSV Be-25 (Raspberry, Switzerland) RpRSV Be-28 (Raspberry, Switzerland) RpRSV Be-26 (Raspberry, Switzerland) RpRSV Be-42 (Raspberry, Switzerland) RpRSV Be-222 (Raspberry, Switzerland) RpRSV Be-226 (Raspberry, Switzerland) RpRSV TF 307 (Raspberry, Switzerland) RpRSV TF 313 (Raspberry, Switzerland) RpRSV TF 312 (Raspberry, Switzerland) RpRSV TF 303 (Raspberry, Switzerland) RpRSV UB 213 (Raspberry, Switzerland) RpRSV GA (Raspberry, Switzerland)
	<u>Not detected:</u> RpRSV T82 (Grapevine, France)
Cross reaction with (Exclusivity)	None known
No cross reaction tested with (Exclusivity)	AMV (Alfalfa mosaic virus) APLV (Andean potato latent virus) ApP (Apple proliferation phytoplasma) ArMV (Arabis mosaic virus) ASPV (Apple stem pitting virus) BYDV (Barley yellow dwarf virus) CLRV (Cherry leaf roll virus) GFLV (Grapevine fanleaf virus) GPGV (Grapevine pinot gris virus) GVA (Grapevine virus A) LMV (Lettuce mosaic virus) PDV (Prune dwarf virus) PVY (Potato virus Y) RBDV (Raspberry bushy dwarf virus) SMYEPV (Strawberry mild yellow edge virus) SqMV (Squash mosaic virus) TBRV (Tomato black ring virus) ToRSV (Tomato ringspot virus) Xcp (<i>Xanthomonas campestris</i> pv. <i>pelargonii</i>) ZYMV (Zucchini yellow mosaic virus)
No matrix effect observed with (Selectivity)	<i>Fragaria ananassa</i> (Strawberry) <i>Nicotiana tabacum clevelandii</i> (Tobacco) <i>Prunus avium</i> (Cherry) <i>Rubus idaeus</i> (Raspberry) <i>Vitis vinifera</i> (Grapevine)

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10 ⁻³ – 10 ⁻⁴ dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	RpRSV on leaves of quinoa: 1:31'250 dilution RpRSV on leaves of cherry: 1:1'250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	2014 (last internal validation)
External validation	2006 (Germany)
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, 23rd, 2023

QC manager:



Version: 2 – 01.09.2023 - Information about sensitivity on host matrix and limit of detection (LoD) added.