Validation report

DAS-ELISA TSV

Article No.: 152377 (TSV Complete kit 96) / 152375 (TSV Complete kit 480) / 152372 (TSV Complete kit 960)

General information:

Target Pathogen	TSV (Tobacco streak virus / Ilarvirus TSV)
Genus	*Ilarvirus*
Method	DAS-ELISA

Technical information:

Antibodies	Polyclonal (coat) and monoclonal (conjugate) antibodies developed against a TSV isolate from red raspberry.
Sampling	Leaf samples: 1:20 (w/v) in extraction buffer "General". Seed samples: 1:20 (w/v) in extraction buffer "General". Detection in leaves is the best source for testing. The best time for sampling of *Rubus* species is in summer.
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized TSV infected plant extracts
Working volume	200 µl / well

Host matrix:

Tested plant material	Leaf Seed transmission is possible. Transmission by vectors (thrips) and mechanical transmission.
Tested species infected	*Chenopodium quinoa* (Quinoa) *Dahlia* x *hortensis* (Dahlia) *Fragaria* x *ananassa* (Strawberry) *Nicotiana Benthamiana* (Tobacco) *Nicotiana Clevelandii* (Tobacco) *Rubus idaeus* (Raspberry)

Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	49
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	>100
Detected isolates / geographic regions (Inclusivity)	TSV 1366 (Switzerland, Quinoa) TSV 1366 (Switzerland, Tobacco) TSV 1198 (Switzerland, Strawberry) TSV 160615 (Switzerland, Raspberry) TSV 140512 (Switzerland, Quinoa) TSV 070709 (Switzerland, Strawberry) TSV D01-004-10 (Irland, Dahlia)
Cross reaction with (Exclusivity)	SNSV (Strawberry necrotic shock virus)
No cross reaction tested with (Exclusivity)	AMV (Alfalfa mosaic virus) BCMV (Bean common mosaic virus)

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	BCMNV (Bean common mosaic necrosis virus) BNYVV (Beet necrotic yellow vein virus) BYDV (Barley yellow dwarf virus) CLRV (Cherry leaf roll virus) GVA (Grapevine virus A) PLRV (Potato leafroll virus) PNRSV (Prunus necrotic ringspot virus) PRSV (Papaya ringspot virus) PVY (Potato virus Y) RBDV (Raspberry bushy dwarf virus) SMV (Soybean mosaic virus) TBRV (Tomato black ring virus) ToMV (Tomato mosaic virus) TSWV (Tomato spotted wilt virus) WMV-2 (Watermelon mosaic virus 2)
No matrix effect observed with (Selectivity)	*Cannabis sativa* (Hemp) - leaf *Capsicum annuum* (Pepper) – leaf and seed *Chenopodium quinoa* (Quinoa) - leaf *Fragaria* x *ananassa* (Strawberry) - leaf *Nicotiana benthamiana* (Tobacco) - leaf *Phaseolus vulgaris* (Bean) - leaf *Rubus fruticosus* (Blackberry) - leaf *Rubus idaeus* (Raspberry) - leaf *Solanum lycopersicum* (Tomato) – leaf and seed

Sensitivity:

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10^{-3} dilution of infected tissue (pathogen titer unknown).
Sensitivity on host matrix	TSV on leaves of quinoa: 1:6'250 dilution TSV on leaves of tobacco: 1:6'250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

Validation:

Internal validation	2000
External validation	-
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:
June 23rd, 2026

QC manager:

Version: 3 – 23.06.2026 – Adaptions from last version: Update for no matrix effect observed with tomato and pepper seed.

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