

# Validation report

## DAS-ELISA CLRV

Article No.: 150977 (CLRV Complete kit 96) / 150975 (CLRV Complete kit 480) / 150972 (CLRV Complete kit 960)

### General information:

Target Pathogen	CLRV (Cherry leaf roll virus)
Genus	<i>Nepovirus</i>
Method	DAS-ELISA

### Technical information:

Antibodies	Polyclonal antibodies developed against birch and elderberry isolates from Germany as well as polyclonal antibodies developed against a cherry isolate from the Pacific Northwest of the USA.
Sampling	Leaf samples: 1:20 (w/v) in extraction buffer "general". Various samples per plant recommended to increase chance of correct diagnosis. Optimal: dormant budwood & young leaf (spring / early summer)
Controls	Negative control (NC): lyophilized extracts from healthy plants Positive control (PC): lyophilized CLRV infected plant extracts
Working volume	200 µl / well

### Host matrix:

Tested plant material	Leaf, Budwood
Tested species infected	<i>Betula pendula</i> (Birch) <i>Chenopodium Quinoa</i> (Quinoa) <i>Juglans regia</i> (Walnut) <i>Nicotiana benthamiana</i> (Tobacco) <i>Nicotiana clevelandii</i> (Tobacco) <i>Nicotiana occidentalis</i> (Tobacco) <i>Sambucus racemose</i> (Mountain Elderberry)

### Specificity:

Analytical Specificity	100%
Number of tested samples from target organism (True Positives)	>41
Diagnostic Specificity	100%
Number of tested samples non-target organism (True Negatives)	>36
Detected isolates / geographic regions (Inclusivity)	CLRV-ch/-e 1003 (France, Walnut) CLRV-ch/-e 1003 (France, Tobacco) CLRV (Germany, Elderberry) CLRV (Switzerland, Tobacco) CLRV-ch/e 982 (Germany, Quinoa) CLRV-ch/e 982 (Germany, Elderberry) CLRV-ch 1219 (Germany, Quinoa) CLRV-ch 1219 (Germany, Tobacco) CLRV-ch 1370 (USA, Quinoa)

	CLRV-ch 1370 (USA, Tobacco) CLRV-ch N°407553 (Germany, Birch) CLRV-ch N°407554 (Germany, Birch) CLRV-ch N°407555 (Germany, Birch) CLRV-ch N°407556 (Germany, Birch) CLRV-ch/-e 1172 (Switzerland, Tobacco) CLRV-ch/-e 1172 (Switzerland, Quinoa)
Cross reaction with (Exclusivity)	None known
No cross reaction tested with (Exclusivity)	None tested
No matrix effect observed with (Selectivity)	<i>Betula pendula</i> (Birch) <i>Chenopodium quinoa</i> (Quinoa) <i>Fragaria</i> (Strawberry) <i>Juglans regia</i> (Walnut) <i>Nicotiana benthamiana</i> (Tobacco) <i>Nicotiana clevelandii</i> (Tobacco) <i>Prunus armeniaca</i> (Apricot) <i>Prunus avium</i> (Cherry) <i>Prunus persica</i> (Peach) <i>Rubus</i> (Blackberry) <i>Rubus idaeus</i> (Raspberry) <i>Sambucus</i> (Elderberry)

**Sensitivity:**

Diagnostic Sensitivity	100%
Analytical Sensitivity / LoD	10 <sup>-2</sup> – 10 <sup>-4</sup> dilution of infected tissue (pathogen titer unknown)
Sensitivity on host matrix	CLRV on leaves of quinoa: 1:31'250 dilution CLRV on leaves of walnut: 1:250 dilution Pathogen titer unknown
Other sensitivity characteristics	-

**Validation:**

Internal validation	2022-2023
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:  
April, 7<sup>th</sup>, 2023

QC manager:



Version: 2 – 17.07.2024 - Information about sensitivity on host matrix and limit of detection (LoD) added.