

# LOEWE®

Solutions for Plant Disease Diagnostics



## Catalog 2024

Molecular Diagnostics

ELISA Antibodies and Kits

LOEWE®FAST Rapid Tests

Immuno Fluorescence

[www.loewe-info.com](http://www.loewe-info.com)

Dear Colleagues,

we have the pleasure to present our new Catalog for Plant Disease Diagnostics 2024. We invite to browse our comprehensive portfolio of diagnostic test methods for ELISA, LOEWE®FAST, Immuno fluorescence and a growing range of molecular diagnostic kits, including our increasing LOEWE®REALTIME product line. Please also visit our web site [www.loewe-info.com](http://www.loewe-info.com) for frequent updates.

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**Our portfolio of Molecular and Serological Diagnostics includes:**

- **ELISA Sets and Kits** - for more than 160 plant viruses, bacteria, and fungi
  - **PCR and RNA-PCR Kits** - pre-validated and shipped at room temperature
  - **LOEWE®REALTIME for a growing number of plant bacteria and viruses**
  - **LOEWE®FAST Rapid Tests** - for easy and fast detection of pathogens
  - **Immuno Fluorescence Antisera** - also available as convenient IF-kits
- **A convenient list of all available products and test formats can be found on pages 4 - 7!**
  - **An summary on the specificity of our popular Tobamoscreen and Tosposcreen ELISA products can be found on page 54.**

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**What's new?**

- We are launching a new product line for detection of **Viroids**: **LOEWE®REALTIME** kits are now available for **Citrus Bark Cracking Viroid** and **Hop Latent Viroid!** (see page 9)
- Our **LOEWE®REALTIME** product line now also includes probe-base kits for the detection of **Erwinia amylovora**, **Xanthomonas citri pv. citri**, **Xylophilus ampelinus**, and **Citrus Tristeza Virus** (see page 9).
- New **LOEWE®FAST** assays are available for **Arabis Mosaic Virus** and **Alfalfa Mosaic Virus** (see page 21).
- **Parietaria Mottle Virus** (PaMV) is a new emerging virus, threatening Tomato and Pepper. We are offering a specific and sensitive RNA-PCR detection kit for this virus (see page 12).
- New findings lead to changes in our ELISA reagents for the detection of **Bean Common Mosaic Potyvirus (BCMV, Serotype B)** and **Bean Common Necrotic Mosaic Potyvirus (BCMNV, serotype A)**. Please note our new **cat. no. 07127** for specific detection of BCMV, whilst BCMV and BCMNV can be detected simultaneously with our ELISA **cat. no. 07126** (see page 29f).

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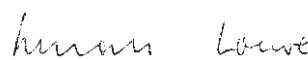
**Contact and Order Information**

For ordering please contact us by e-mail ([sales@loewe-info.com](mailto:sales@loewe-info.com)) or register with our web-shop on [www.loewe-info.com](http://www.loewe-info.com). In addition, our products are available through a worldwide net of authorized distributors. Please visit our website: [www.loewe-info.com/delivery.html](http://www.loewe-info.com/delivery.html) to find a representative in your region. Our team is looking forward to help you with any questions and inquiries!

Sincerely,



Dr. Caroline Freye-Minks



Dr. Renate Loewe

**LOEWE®**

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Cover page:  
Mosaic pattern on Abutilon  
caused by Abutilon Mosaic Virus

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Pathogen	ELISA	LOEWE® FAST	End-Point PCR	LOEWE® REALTIME	Immuno Fluorescence	Remarks
Acidovorax a. subsp. citrulli	✓	✓	✓		✓	
Alfalfa Mosaic Virus	✓	✓				
African Cassava Mosaic Virus	✓*					* detected by TYLCV ELISA
Andean Potato Latent Virus	✓					
Andean Potato Mottle Virus	✓					
Apple Chlorotic Leafspot Virus	✓		✓			
Apple Mosaic Virus	✓	✓	✓			
Apple Proliferation Group Phytoplasma			✓			
Apple Stem Grooving Virus			✓			
Arabis Mosaic Virus	✓	✓				
Aster Yellows Phytoplasma			✓			
Bean Golden Mosaic Virus	✓*					* detected by TYLCV ELISA
Barley Mild Mosaic Virus	✓		✓*			* Duplex-PCR with BaYMV
Barley Stripe Mosaic Virus	✓					
Barley Yellow Dwarf Virus (PAV, MAV)	✓					
Barley Yellow Mosaic Virus	✓		✓*			* Duplex-PCR with BaMMV
Bean Common Mosaic Necrosis Virus	✓					
Bean Common Mosaic Virus Serotype B	✓					
Bean Yellow Mosaic Virus	✓					
Beet Black Scorch Virus	✓					
Beet Mosaic Virus	✓					
Beet Necrotic Yellow Vein Virus	✓		✓*			* Triplex PCR with BSbV, BV-Q
Beet Soil-Borne Virus			✓*			* Triplex PCR with BNYVV BV-Q
Beet Virus Q	✓		✓*			* Triplex PCR with BSbV, BNYVV
Beet Yellows Virus	✓	✓				
Botrytis cinerea grapevine isolate	✓	✓				
Broad Bean Wilt Virus I	✓					
Broad Bean Wilt VirusII	✓					
Brome Mosaic Virus	✓					
Brome Streak Mosaic Virus	✓					
Calibrachoa Mottle Virus	✓					
Carnation Latent Virus	✓					
Carnation Mottle Virus	✓					
Carnation Ringspot Virus	✓					
Carnation Vein Mottle Virus	✓					
Celery Mosaic Virus	✓					
Cherry Leafroll Virus birch	✓		✓*			* PCR detects all isolates
Chilli Veinal Mottle Virus	✓					
Chrysanthemum Virus B	✓					
Citrus Bark Cracking Viroid				✓		
Citrus Tristeza Virus	✓		✓	✓		
Clavibacter m. subsp. michiganensis	✓	✓	✓		✓	
Clavibacter m. subsp. sepedonicus	✓	✓	✓	✓	✓	
Coletotrichum spec.			✓			
Common Oak Ringspot Virus	✓					
Cowpea Mild Mottle Virus	✓					
Cucumber Green Mottle Mosaic Virus	✓	✓				
Cucumber Mosaic Virus (Serogroup 1 and 2)	✓	✓	✓*			Duplex PCR for discrimination of * serogroups 1, 2
Cucurbit Aphid-borne Virus			✓			
Cucurbit Chlorotic Yellows Virus	✓					

Pathogen	ELISA	LOEWE® FAST	End-Point PCR	LOEWE® REALTIME	Immuno Fluorescence	Remarks
<i>Curtobacterium f. subsp. flaccumfaciens</i>			✓		✓	
Cymbidium Mosaic Virus	✓					
Cymbidium Ringspot Virus	✓					
<i>Dickeya chrysanthemi</i>	✓	✓			✓	
Eggplant Mottled Dwarf Virus	✓					
Elm Yellow's Phytoplasma			✓			
<i>Erwinia amylovora</i>	✓		✓	✓		
European Mountain Ash Ringspot-associated Virus			✓			
Freesia Mosaic Virus	✓					
<i>Fusarium culmorum</i>			✓			
<i>Fusarium graminearum</i>			✓			
Grapevine Algerian Latent Virus	✓					
Grapevine Fanleaf Virus	✓					
Grapevine Leafroll associated Virus-1	✓					
Grapevine Leafroll associated Virus-3	✓					
Hop Latent Viroid				✓		
Hop Mosaic Virus	✓					
Hydrangea Ringspot Virus	✓		✓			
Impatiens Necrotic Spot Virus	✓	✓	✓			
Johnson Grass Mosaic Virus	✓					
Lettuce Mosaic Virus	✓					
Lettuce Necrotic Stunt Virus	✓					
Maize Chlorotic Mottle Virus	✓					
Maize Dwarf Mosaic Virus	✓					
Melon Necrotic Spot Virus	✓	✓				
Mirafiori Lettuce Big-Vein Virus	✓					
Moroccan Watermelon Mosaic Virus	✓					
Nemesia Ring Necrosis Virus	✓					
Odontoglossum Ringspot Virus	✓					
Olive Latent Virus-1	✓					
Onion Yellow Dwarf Virus	✓					
<i>P. syringae pv. lachrymans</i>	✓					
<i>P. syringae pv. tomato</i>	✓				✓	
<i>P.seudomonas savastanoi pv. phaseolicola</i>	✓					
<i>Pantoea stewartii subsp. stewartii</i>	✓	✓	✓	✓	✓	
Paprika Mild Mottle Virus	✓					
Parietaria Mottle Virus	✓		✓			
Pea Enation Mosaic Virus	✓					
Pea Necrotic Yellow Dwarf Virus	✓		✓			
Pea Seed-borne Mosaic Virus	✓					
<i>Pectobacterium atrosepticum</i>	✓					
Pelargonium Flower Break Virus	✓					
Pelargonium Leafcurl Virus	✓					
Pelargonium Line Pattern Virus	✓					
Pepino Mosaic Virus	✓	✓	✓			
Pepper Mild Mottle Virus	✓					
Pepper Mottle Virus	✓					
Pepper Veinal Mottle Virus	✓	✓				
Petunia Asteroid Mosaic Virus	✓					

Pathogen	ELISA	LOEWE® FAST	End-Point PCR	LOEWE® REALTIME	Immuno Fluorescence	Remarks
Plum Pox Virus unisersal (5IVIA-B)	✓		✓			
Poinsettia Mosaic Virus	✓					
Poplar Mosaic Virus	✓					
Potato Aucuba Mosaic Virus Set	✓					
Potato Black Ringspot Virus	✓					
Potato Leafroll Virus	✓		✓			
Potato Mop top Virus			✓			
Potato Virus A	✓					
Potato Virus M	✓					
Potato Virus S	✓					
Potato Virus X	✓	✓				
Potato Virus Y	✓	✓	✓			
Potyvirus Group			✓			detection of Potyvirus genus
Prune Dwarf Virus	✓	✓				
Prunus Necrotic Ringspot Virus	✓	✓	✓			
Pseudomonas syringae pv. pisi	✓					
Pythium spp.	✓					
Radish Mosaic Virus	✓					
Ralstonia solanacearum	✓	✓	✓	✓	✓	
Raspberry Bushy Dwarf Virus	✓					
Raspberry Ringspot Virus Broad Range	✓*					* detects RpRSV-ch, RpRSV-r, RpRSV-g
Raspberry Ringspot Virus cherry isolate	✓					
Raspberry Ringspot Virus grapevine isolate	✓					
Raspberry Ringspot Virus raspberry isolate	✓					
Red Clover Mottle Virus	✓					
Ribgrass Mosaic Virus	✓*					* detected by Tobamoscreen II
Rhizoctonia solani	✓					
Rhodococcus fascians	✓		✓			
Rice Yellow Mottle Virus	✓					
Soil-borne Cereal Mosaic Virus	✓					
Soil-borne Wheat Mosaic Virus	✓					
Sorghum Mosaic Virus	✓					
Southern Bean Mosaic Virus	✓					
Soybean Mosaic Virus	✓					
Squash Mosaic Virus	✓					
Stolbur Phytoplasma			✓			
Strawberry Latent Ringspot Virus	✓		✓			
Streptocarpus Flowerbreak Virus	✓*					* detected by Tobamoscreen II
Sugarcane Mosaic Virus	✓					
Tobacco Mild Green Mosaic Virus	✓					
Tobacco Mosaic Virus	✓	✓				
Tobacco Rattle Virus Broad Range	✓*					* detects TRV-J, -K, -M
Tobacco Rattle Virus J	✓					
Tobacco Rattle Virus K	✓					
Tobacco Rattle Virus M	✓					
Tobacco Ringspot Virus	✓					
TobamoScreen I	✓*	✓*	✓*			* detects TMV, ToMV, PMMoV, ToBRFV
TobamoScreen II	✓*					* detects RMV, SFBV, TVCV, YMV
Tomato Aspermy Virus	✓					
Tomato Blackring Virus	✓					

Pathogen	ELISA	LOEWE® FAST	End-Point PCR	LOEWE® REALTIME	Immuno Fluorescence	Remarks
Tomato Bushy Stunt Virus	✓					
Tomato Chlorosis Virus	✓		✓			
Tomato Chlorotic Spot Virus	✓		✓*			* detected by LF07509
Tomato infectious Chlorosis Virus			✓			
Tomato Leafcurl New Delhi Virus			✓			
Tomato Mosaic Virus	✓	✓				
Tomato Mottle Mosaic Virus			✓			
Tomato Ringspot Virus	✓					
Tomato Spotted Wilt Virus	✓		✓			
Tomato Yellow Leafcurl Virus	✓*		✓			* also detects: ACMV, BGMV
TospoSCREEN	✓*	✓*				ELISA detects; TSWV, GRSV; TCSV, * INSV; LF detects TSWV, TCSV, GRSV
Turnip Mosaic Virus	✓					
Turnip Vein Clearing Virus	✓*					* detected by Tobamoscreen II
Turnip Yellow Mosaic Virus	✓					
Turnip Yellows Virus	✓		✓			
Universal Phytoplasma			✓			
Water Melon Mosaic Virus II	✓					
Wheat Dwarf Virus	✓					
Wheat Spindle Streak Mosaic Virus	✓					
Wheat Streak Mosaic Virus	✓					
Xanthomonas arboricola pv. corylina	✓				✓	
Xanthomonas arboricola pv. pruni	✓		✓			
Xanthomonas axonopodis pv. begoniae	✓				✓	
Xanthomonas axonopodis pv. phaseoli	✓				✓	
Xanthomonas c. pv. campestris	✓					
Xanthomonas c. pv. vesicatoria	✓				✓	
Xanthomonas campestris Lobelia isolate	✓				✓	
Xanthomonas citri pv. citri	✓		✓	✓	✓	
Xanthomonas citri pv. auranthifolii	✓					
Xanthomonas fragariae	✓				✓	
Xanthomonas hortorum pv. pelargonii	✓	✓	✓		✓	
Xanthomonas oryzae	✓		✓		✓	
Youcai Mosaic Virus	✓*					* detected by Tobamoscreen II
Xylella fastidiosa	✓	✓	✓	✓	✓	
Xylophilus ampelinus	✓	✓	✓	✓	✓	
Zucchini Green Mottle Mosaic Virus	✓	✓				
Zucchini Yellow Fleck Virus	✓					
Zucchini Yellow Mosaic Virus	✓					

# LOEWE®REALTIME

Realtime PCR is a highly sensitive and fast method using specific primers for the detection of RNA-or DNA containing pathogens. The detection is followed by fluorescence measurements in real time during the amplification reaction with a Realtime PCR Cycler.

Our complete LOEWE®REALTIME reaction kits for the detection plant pathogens utilize pathogen-specific primers in combination with DNA-binding dyes or fluorescently labeled probes to detect the amplification.

Depending on the pathogen, we use detection with SolisGreen®, which is compatible with all common qPCR cyclers with standard settings for SYBR®Green or FAM™-labeled probes, where the channels FAM™ and HEX Channel are needed.



## When to use Realtime PCR

- Screening of non-symptomatic plants
- Determination of infection levels of a certain population
- Screening of samples with known lower pathogen titer (e.g. seeds)
- Diagnostic method with good confidence in negative samples

## Advantages and Limitation

- Fast: 30 – 60 min
- Quantitation possible
- Highly specific
- Very sensitive
- Expensive laboratory equipment needed

**Thermostable!**  
**All kits ship at**  
**room temperature!**

## Our Realtime formats

### LOEWE®REALTIME reaction kits for Bacteria

Depending on the pathogen, we implemented two different modes of detection:

- **Dye-based** detection with SolisGreen®, compatible with all common qPCR cyclers with standard settings for SYBR®Green
- **Probe-based** detection with FAM™ fluorescent labels

#### Kit Content

- Primer Mix or Primer/Probe Mix (pathogen specific)
- 5 x Mastermix
- Positive control (Synthesized DNA)
- Negative control (DNA from healthy plants)
- PCR-grade water
- Internal Control DNA/RNA Assay (LOEWE® Cat. No. 0600IC/100, available separately)

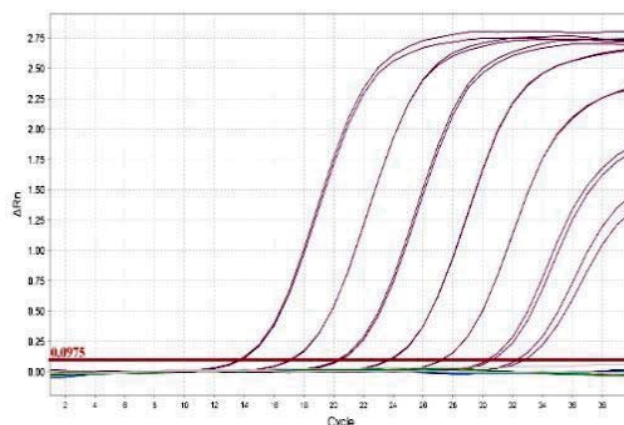
### LOEWE®REALTIME reaction kits for RNA Viruses (ONE-Tube ONE-Step)

The reaction is carried out in one tube starting with the reverse transcription of plant virus RNA prior to cDNA amplification. Each kit includes specific primers and FAM-labelled probes for reliable and highly sensitive detection of the target pathogen.

Additionally, an internal control is already included, which is based on universal primers specific for plant RNA combined with a HEX-labelled probe. This allows to verify successful RNA extraction and amplification in all samples.

#### Kit Content

- Primer/Probe Mix (pathogen specific)
- 5x One-step Multiplex Probe Mix (ROX)
- 40x One-step SOLIScript® Mix
- Positive control (Synthesized DNA)
- Negative control (DNA from healthy plants)
- PCR-grade water
- Internal Control included (HEX™ Channel)



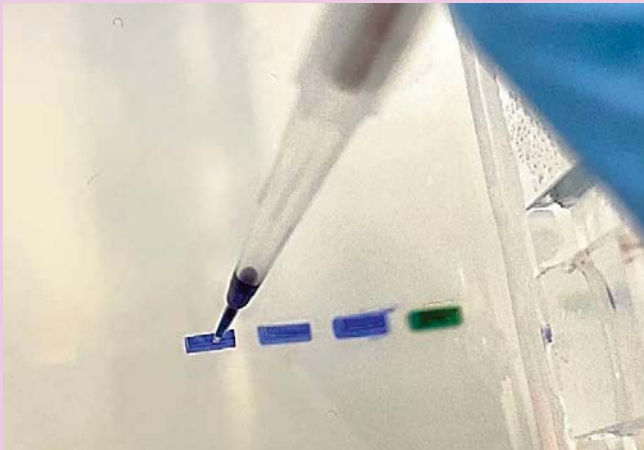


Product Section

LOEWE®REALTIME		Size
<b>LOEWE®REALTIME PCR - Bacteria</b>		<b>Size</b>
06064C/100	<b>Clavibacter m. subsp. sepedonicus complete REALTIME PCR reaction kit</b> Probe-based realtime PCR assay	100 reactions
06069C/100	<b>Erwinia amylovora complete REALTIME PCR reaction kit</b> Probe-based realtime PCR assay	100 reactions
06129C/100	<b>Pantoea stewartii subsp. stewartii complete REALTIME PCR reaction kit</b> Dye-based PCR assay	100 reactions
06056C/100	<b>Ralstonia solanacearum complete REALTIME PCR reaction kit</b> Probe-based realtime PCR assay	100 reactions
06102C/100	<b>Xanthomonas citri pv. citri complete REALTIME PCR reaction kit</b> Probe-based realtime PCR assay	100 reactions
06138C/100	<b>Xylophilus ampelinus complete REALTIME PCR reaction kit</b> Probe-based realtime PCR assay	100 reactions
06119C/100	<b>Xylella fastidiosa complete REALTIME PCR reaction kit</b> Dye-based PCR assay	100 reactions
<b>LOEWE®REALTIME - Viroids</b>		<b>Size</b>
06135C/100	<b>Citrus Bark cracking Viroid complete REALTIME PCR reaction kit</b> Probe-based realtime PCR assay	100 reactions
06136C/100	<b>Hop Latent Viroid complete REALTIME PCR reaction kit</b> Probe-based realtime PCR assay	100 reactions
<b>LOEWE®REALTIME - Viruses</b>		<b>Size</b>
06099C/100	<b>Citrus Tristeza Virus complete REALTIME reaction kit</b> Probe-based realtime PCR assay	100 reactions
06175C/100	<b>Tomato Brown Rugose Fruit Virus complete REALTIME PCR reaction kit</b> Probe-based realtime PCR assay	100 reactions
<div style="border: 1px solid black; padding: 10px;"> <p><b>!</b> LOEWE®REALTIME Kits for <b>BACTERIA</b> detection do not have an internal control. Instead we offer our <b>Internal Control Assay (ICA)</b>, which can easily be implemented in order to monitor DNA extraction and amplification. Available separately: <b>LOEWE® Cat. No. 0600IC/100 Internal Control DNA/RNA Assay – see page 19!</b></p> <p>LOEWE®REALTIME Kits for <b>Virus and Viroid</b> detection do have an internal control (HEX – channel)</p> </div>		

# END-POINT PCR

Sensitive diagnostic method using specific primers for the detection of RNA or DNA containing pathogens. The detection of the amplification products is done by agarose gelelectrophoresis.



## When to use End-Point PCR

- Routine screening of plant material
- Confirmation of results from serological assays
- Diagnostic method with good confidence in negative results

## Advantages and Limitation

- Specific and sensitive, ready-to-use kits, fast and cost effective
- Optimized and evaluated conditions for the amplification reaction
- Laboratory equipment needed
- Agarose Gelelectrophoresis step necessary
- Experienced operator needed

All Products ship at room temperature!

## Our PCR Test Formats

Our end-point PCR kits are a cost effective alternative to Realtime PCR assays, and allow specific and sensitive detection of plant pathogens, especially when serological reagents are not available or a second method is needed.

### DNA PCR Sets

- Premix (Primers, dNTPs)
- Positive Control (DNA based)
- Negative Control (DNA based)

### DNA Complete Reaction Kits

- Premix (Primers, dNTPs)
- DNA-Polymerase
- Reaction Buffer
- PCR-grade Water
- Positive Control (DNA based)
- Negative Control (DNA based)

### RNA PCR Complete Reaction Kits (ONE-Tube ONE-Step)

The reaction is carried out in one tube starting with the reverse transcription of plant virus RNA followed by cDNA amplification. The resulting amplicon is then visualized on an agarose gel.

- Premix (Primers, dNTPs)
- DNA-Polymerase
- Reverse Transcriptase: M-MLV, RNase H-
- Reaction Buffer
- PCR-grade Water
- Dithiothreitol (DTT)
- Positive Control (DNA based)
- Negative Control (DNA based)

**Supplements for Molecular Kits can be found on Page 19**

### Plant DNA/RNA Extraction Kits

Our PCR complete reaction kits have been validated using RNA and DNA extraction kits especially suitable for plant material.

## Product Section

One-Tube One-Step RNA PCR - Viruses			
<b>09103</b>	<b>Apple Chlorotic Leaf Spot Virus RNA PCR</b>	<b>Size</b>	
09103C/100	Apple Chlorotic Leafspot Virus complete RNA PCR reaction kit	100 reactions	
09103PC	Positive PCR Control Apple Chlorotic Leafspot Virus (DNA-based) specific only for primers provided with 09103C/100	1 vial (10 reactions)	
09103NC	Negative PCR Control Apple Chlorotic Leafspot Virus (DNA-based)	1 vial (10 reactions)	
<b>09054</b>	<b>Apple Mosaic Virus RNA PCR</b>	<b>Size</b>	
09054C/100	Apple Mosaic Virus complete RNA PCR reaction kit	100 reactions	
09054PC	Positive PCR Control Apple Mosaic Virus (DNA-based) specific only for primers provided with 09054C/100	1 vial (10 reactions)	
09054NC	Negative PCR Control Apple Mosaic Virus Virus (DNA-based)	1 vial (10 reactions)	
<b>09085</b>	<b>Apple Stem Grooving Virus RNA PCR</b>	<b>Size</b>	
09085C/100	Apple Stem Grooving Virus complete RNA PCR reaction kit	100 reactions	
09085PC	Positive PCR Control Apple Stem Grooving Virus (DNA-based) specific only for primers provided with 09085C/100	1 vial (10 reactions)	
09085 NC	Negative PCR Control Apple Stem Grooving Virus (DNA-based)	1 vial (10 reactions)	
<b>09276</b>	<b>Barley Mild Mosaic Virus / Barley Yellow Mosaic Virus Duplex RNA PCR</b>	<b>Size</b>	
	detection and discrimination of both viruses within one-tube one-step RT-PCR		
09276C/100	BaMMV/BaYMV complete RNA PCR reaction kit	100 reactions	
09276PC	Positive PCR Control BaMMV/BaYMV (DNA-based) specific only for primers provided with 09276C/100	1 vial (10 reactions)	
09276 NC	Negative PCR Control BaMMV/BaYMV (DNA-based)	1 vial (10 reactions)	
<b>09211</b>	<b>Beet Necrotic Yellow Vein Virus/ Beet Soil-Borne Virus/ Beet Virus Q RNA PCR</b>	<b>Triplex</b>	<b>Size</b>
09211C/100	BNYVV/BSBV/BVQ complete RNA PCR reaction kit		100 reactions
09211PC	Positive PCR Control BNYVV/BSBV/BVQ (DNA-based) specific only for primers provided with 09211C/100		1 vial (10 reactions)
09211NC	Negative PCR Control BNYVV/BSBV/BVQ (DNA-based)		1 vial (10 reactions)
<b>09093</b>	<b>Cherry Leafroll Virus RNA PCR (Detection of all published isolates)</b>	<b>Size</b>	
09093C/100	Cherry Leafroll Virus complete RNA PCR reaction kit	100 reactions	
09093PC	Positive PCR Control Cherry Leafroll Virus (DNA-based) specific only for primers provided with 09093C/100	1 vial (10 reactions)	
09093NC	Negative PCR Control Cherry Leafroll Virus (DNA-based)	1 vial (10 reactions)	
<b>09099</b>	<b>Citrus Tristeza Virus RNA PCR</b>	<b>Size</b>	
09099C/100	Citrus Tristeza Virus Virus complete RNA PCR reaction kit	100 reactions	
09099PC	Positive PCR Control Citrus Tristeza Virus (DNA-based) specific only for primers provided with 09099C/100	1 vial (10 reactions)	
09099NC	Negative PCR Control Citrus Tristeza Virus (DNA-based)	1 vial (10 reactions)	
<b>09108</b>	<b>Cucumber Mosaic Virus I and II Duplex RNA PCR</b>	<b>Size</b>	
09108C/100	Cucumber Mosaic Virus I and II complete RNA PCR reaction kit	100 reactions	
09108PC	Positive PCR Cucumber Mosaic Virus (DNA-based) specific only for primers provided with 09181C/100	1 vial (10 reactions)	
09108NC	Negative PCR Cucumber Mosaic Virus (DNA-based)	1 vial (10 reactions)	

## Product Section

09182	<b>Cucurbit Aphid-Borne Yellows Virus RNA PCR</b>	Size	
09182C/100	Cucurbit Aphid-Borne Yellows Virus complete RNA-PCR reaction kit	100 reactions	
09182PC	Positive PCR Control Cucurbit Aphid-Borne Yellows Virus (DNA-based) specific only for primers provided with 09182C/100	1 vial (10 reactions)	
09182NC	Negative PCR Control Cucurbit Aphid-Borne Yellows Virus (DNA-based)	1 vial (10 reactions)	
09110	<b>Cucumber Vein Yellowing Virus RNA PCR</b>	Size	
09110C/100	Cucumber Vein Yellowing Virus complete RNA PCR reaction kit	100 reactions	
09110PC	Positive PCR Control Cucumber Vein Yellowing Virus (DNA-based) specific only for primers provided with 09110C/100	1 vial (10 reactions)	
09110NC	Negative PCR Control Cucumber Vein Yellowing Virus (DNA-based)	1 vial (10 reactions)	
09195	<b>European Mountain Ash Ringspot-associated Virus (EMARaV)</b>	Size	
09195C/100	EMARaV complete RNA PCR reaction kit	100 reactions	
09195PC	Positive PCR Control EMARaV (DNA-based) specific only for primers provided with 09195C/100	1 vial (10 reactions)	
09195NC	Negative PCR Control EMARaV (DNA-based)	1 vial (10 reactions)	
09026	<b>Hydrangea Ringspot Virus RNA PCR</b>	Size	
09026C/100	Hydrangea Ringspot Virus complete RNA PCR reaction kit	100 reactions	
09026PC	Positive PCR Control Hydrangea Ringspot Virus (DNA-based) specific only for primers provided with 09026C/100	1 vial (10 reactions)	
09026NC	Negative PCR Control Hydrangea Ringspot Virus (DNA-based)	1 vial (10 reactions)	
09505	<b>Impatiens Necrotic Spot Virus RNA PCR</b>	Size	
09505C/100	Impatiens Necrotic Spot Virus complete RNA PCR reaction kit	100 reactions	
09505PC	Positive PCR Control Impatiens Necrotic Spot Virus (DNA-based) specific only for primers provided with 09505C/100	1 vial (10 reactions)	
09505NC	Negative PCR Control Impatiens Necrotic Spot Virus (DNA-based)	1 vial (10 reactions)	
09043	<b>Parietaria Mottle Virus RNA PCR</b>	Size	
09043C/100	Parietaria Mottle Virus complete RNA PCR reaction kit	100 reactions	
09043PC	Positive PCR Control Parietaria Mottle Virus (DNA-based) specific only for primers provided with 09043C/100	1 vial (10 reactions)	
09043NC	Negative PCR Control Parietaria Mottle Virus (DNA-based)	1 vial (10 reactions)	
09128	<b>Pepino Mosaic Virus RNA PCR</b>	Size	
09128C/100	Pepino Mosaic Virus complete RNA PCR reaction kit	100 reactions	
09128PC	Positive PCR Control Pepino Mosaic Virus (DNA-based) specific only for primers provided with 09128C/100	1 vial (10 reactions)	
09128NC	Negative PCR Control Pepino Mosaic Virus (DNA-based)	1 vial (10 reactions)	
09186	<b>Plum Pox Virus RNA PCR</b>	Size	
09186C/100	Plum Pox Virus complete RNA PCR reaction kit	100 reactions	
09186PC	Positive PCR Control Plum Pox Virus (DNA-based) specific only for primers provided with 09186C/100	1 vial (10 reactions)	
09186NC	Negative PCR Control Plum Pox Virus (DNA-based)	1 vial (10 reactions)	



## Product Section

09031	Potato Leafroll Virus RNA PCR	Size	
09031C/100	Potato Leafroll Virus complete RNA PCR reaction kit	100 reactions	
09031PC	Positive PCR Control Potato Leafroll Virus (DNA-based) specific only for primers provided with 09031C/100	1 vial (10 reactions)	
09031NC	Negative PCR Control Potato Leafroll Virus (DNA-based)	1 vial (10 reactions)	
09003	Potato Mop-op Virus RNA PCR	Size	
09003C/100	Potato Mop-Top Virus complete RNA PCR reaction kit	100 reactions	
09003PC	Positive PCR Control Potato Mop-Top Virus (DNA-based) specific only for primers provided with 09003C/100	1 vial (10 reactions)	
09003NC	Negative PCR Control Potato Mop-Top Virus (DNA-based)	1 vial (10 reactions)	
09038	Potato Virus Y RNA PCR	Size	
09038C/100	Potato Virus Y complete RNA PCR reaction kit	100 reactions	
09038PC	Positive PCR Control Potato Virus Y (DNA-based) specific only for primers provided with 09038C/100	1 vial (10 reactions)	
09038NC	Negative PCR Control Potato Virus Y (DNA-based)	1 vial (10 reactions)	
09041	Potyvirus universal RNA PCR	Size	
09041C/100	Poty Virus universal complete RNA PCR reaction kit	100 reactions	
09041PC	Positive PCR Control Poty Virus universal (DNA-based) specific only for primers provided with 09041C/100	1 vial (10 reactions)	
09041NC	Negative PCR Control Poty Virus universal (DNA-based)	1 vial (10 reactions)	
09052	Prunus Necrotic Ringspot Virus RNA PCR	Size	
09052C/100	Prunus Necrotic Ringspot Virus complete RNA PCR reaction kit	100 reactions	
09052PC	Positive PCR Control Prunus Necrotic Ringspot Virus (DNA-based) specific only for primers provided with 09052C/100	1 vial (10 reactions)	
09052NC	Negative PCR Control Prunus Necrotic Ringspot Virus (DNA-based)	1 vial (10 reactions)	
09115	Strawberry Latent Ringspot Virus RNA PCR	Size	
09115/100	Strawberry Latent Ringspot Virus complete RNA PCR reaction kit	100 reactions	
09115PC	Positive PCR Control Strawberry Ringspot Latent Virus (DNA-based) specific only for primers provided with 09115C/100	1 vial (10 reactions)	
09115NC	Negative PCR Control Strawberry Latent Ringspot Virus (DNA-based)	1 vial (10 reactions)	
09184	Tobamovirus Broad Range RNA PCR	Size	
09184C/100	Tobamovirus Broad Range complete RNA PCR reaction kit	100 reactions	
09184PC	Positive PCR Control Tobamovirus (DNA-based) specific only for primers provided with 09184C/100	1 vial (10 reactions)	
09184NC	Negative PCR Control Tobamovirus Broad Range (DNA-based)	1 vial (10 reactions)	
09175	Tomato Brown Rugose Fruit Virus RNA PCR	Size	
	This kit has been validated during an EU-wide Test performance study in the frame of the Horizon2020 project VALITEST ( <a href="http://www.valitest.eu">www.valitest.eu</a> )		
09175C/100	Tomato Brown Rugose Fruit Virus complete RNA PCR reaction kit	100 reactions	
09175PC	Positive PCR Control Tomato Brown Rugose Fruit Virus (DNA-based) specific only for primers provided with 09175C/100	1 vial (10 reactions)	
09175NC	Negative PCR Control Tomato Brown Rugose Fruit Virus (DNA-based)	1 vial (10 reactions)	

## Product Section

09102	Tomato Chlorosis Virus RNA PCR	Size	
09102C/100	Tomato Chlorosis Virus complete RNA PCR reaction kit	100 reactions	
09102PC	Positive PCR Control Tomato Chlorosis Virus (DNA-based) specific only for primers provided with 09102C/100	1 vial (10 reactions)	
09102NC	Negative PCR Control Tomato Chlorosis Virus (DNA-based)	1 vial (10 reactions)	
09101	Tomato Infectious Chlorosis Virus RNA PCR	Size	
09101C/100	Tomato Infectious Chlorosis Virus complete RNA PCR reaction kit	100 reactions	
09101PC	Positive PCR Control Tomato Infectious Chlorosis Virus (DNA-based) specific only for primers provided with 09101C/100	1 vial (10 reactions)	
09101NC	Negative PCR Control Tomato Chlorosis Virus (DNA-based)	1 vial (10 reactions)	
09181	Tomato Mottle Mosaic Virus RNA PCR	Size	
09181C/100	Tomato Mottle Mosaic Virus complete RNA PCR reaction kit	100 reactions	
09181PC	Positive PCR Control Tomato Mottle Mosaic Virus (DNA-based) specific only for primers provided with 09181C/100	1 vial (10 reactions)	
09181NC	Negative PCR Control Tomato Mottle Mosaic Virus (DNA-based)	1 vial (10 reactions)	
09501	Tomato Spotted Wilt Virus RNA PCR	Size	
09501C/100	Tomato Spotted Wilt Virus complete RNA PCR reaction kit	100 reactions	
09501PC	Positive PCR Control Tomato Spotted Wilt Virus (DNA-based) specific only for primers provided with 09501/100	1 vial (10 reactions)	
09501NC	Negative PCR Control Tomato Spotted Wilt Virus (DNA-based)	1 vial (10 reactions)	
09009	Turnip Yellow Virus RNA PCR	Size	
09009C/100	Turnip Yellow Virus complete RNA PCR reaction kit	100 reactions	
09009PC	Positive PCR Control Turnip Yellow Virus (DNA-based) specific only for primers provided with 09009C/100	1 vial (10 reactions)	
09009NC	Negative PCR Turnip Yellow Virus (DNA-based)	1 vial (10 reactions)	
<b>DNA PCR Products - Viruses</b>			
08112	Pea Necrotic Yellow Dwarf Virus DNA PCR	Size	
08112C/100	Pea Necrotic Yellow Dwarf Virus complete DNA PCR reaction kit	100 reactions	
08112PC	Positive PCR Control Pea Necrotic Yellow Dwarf Virus (DNA-based) specific only for primers provided with 09112C/100	1 vial (10 reactions)	
08112NC	Negative PCR Control Pea Necrotic Yellow Dwarf Virus (DNA-based)	1 vial (10 reactions)	
08180	Tomato Leafcurl New Delhi Virus DNA PCR	Size	
08180C/100	Tomato Leafcurl New Delhi Virus complete DNA PCR reaction kit	100 reactions	
08180PC	Positive PCR Control Tomato Leafcurl New Delhi Virus (DNA-based) specific only for primers provided with 08180C/100	1 vial (10 reactions)	
08180NC	Negative PCR Control Tomato Leafcurl New Delhi Virus (DNA-based)	1 vial (10 reactions)	
08177	Tomato Yellow Leafcurl Virus DNA PCR	Size	
08177C/100	Tomato Yellow Leafcurl Virus complete DNA PCR reaction kit	100 reactions	
08177PC	Positive PCR Control Tomato Yellow Leafcurl Virus (DNA-based) specific only for primers provided with 08177C/100	1 vial (10 reactions)	
08177NC	Negative PCR Control Tomato Yellow Leafcurl Virus (DNA-based)	1 vial (10 reactions)	

## Detection of Phytoplasmas by End-point PCR

Phytoplasmas are harmful plant pathogens related to bacteria, but lacking the cell wall. They cause severe damage and yield loss on more than 700 plants species, many of them of agricultural importance including fruit trees, vine and ornamental plants. The symptoms vary from yellowing, stunting, virescence, “witches broom”, flower sterility, and phyllody up to plant death. Phytoplasmas are transmitted by phloem-feeding insect vectors.



### Universal Phytoplasma nested End-point PCR

Our **Universal Phytoplasma nested end-point PCR** is ideal to test your samples for the presence of a variety of phytoplasmas in one assay:

- ❖ Apple Proliferation (including Pear Decline and European Stonefruit Yellows)
- ❖ Aster Yellows
- ❖ Elm Yellows
- ❖ Stolbur
- ❖ Bermuda Grass White Leaf

The highly sensitive primers do not show any matrix effects with healthy plant material. For DNA preparation we recommend to use **our Plant DNA Extraction Kit** produced for LOEWE® by Innuscreen (Cat. No. 0845DNA/050).

We offer **complete DNA PCR reaction kits**, which include the pathogen specific premix, positive and negative controls, DNA-Polymerase and all buffers needed. In addition the test is also available as a **“Set”-format** including only a pathogen specific premix and positive and negative controls.

<b>08009S/100</b>	Universal Phytoplasma nested PCR Set	100 reactions
<b>08009C/100</b>	Universal Phytoplasma nested complete PCR reaction kit	100 reactions
<b>08009PC</b>	Positive PCR Control Universal Phytoplasma	1 vial (10 reactions)
<b>08009NC</b>	Negative PCR Control Universal Phytoplasma	1 vial (10 reactions)

### End-point PCR for the detection of specific Phytoplasma Groups

If identification of a specific phytoplasma group is necessary, we provide a broad portfolio of diagnostic PCR kits:

<b>08000C/100</b>	Apple Proliferation Group Phytoplasma complete PCR reaction kit	100 reactions
<b>08002C/100</b>	Aster Yellows Phytoplasma complete PCR reaction kit	100 reactions
<b>08003C/100</b>	Elm Yellows Phytoplasma complete PCR reaction kit	100 reactions
<b>08004C/100</b>	Stolbur Phytoplasma complete PCR reaction kit	100 reactions

## Product Section


DNA PCR Products - Phytoplasmas			
<b>08000</b>	<b>Apple Proliferation Group Phytoplasma PCR</b>	<b>Size</b>	
	detects members of the Apple Proliferation group (Apple Proliferation, European Stone Fruit Yellows and Pear Decline Phytoplasma).		
08000S/100	Apple Proliferation Group Phytoplasma PCR set	100 reactions	
08000C/100	Apple Proliferation Group Phytoplasma complete PCR reaction kit	100 reactions	
08000PC	Positive PCR Control Apple Proliferation Group Phytoplasma	1 vial (10 reactions)	
08000 NC	Negative PCR Control Apple Proliferation Group Phytoplasma	1 vial (10 reactions)	
<b>08002</b>	<b>Aster Yellows Phytoplasma PCR</b>	<b>Size</b>	
08002S/100	Aster Yellows Phytoplasma PCR set	100 reactions	
08002C/100	Aster Yellows Phytoplasma complete PCR reaction kit	100 reactions	
08002PC	Positive PCR Control Aster Yellows Phytoplasma	1 vial (10 reactions)	
08002NC	Negative PCR Control Aster Yellows Phytoplasma	1 vial (10 reactions)	
<b>08003</b>	<b>Elm Yellows Phytoplasma PCR</b>	<b>Size</b>	
08003S/100	Elm Yellows Phytoplasma PCR set	100 reactions	
08003C/100	Elm Yellows Phytoplasma complete PCR reaction kit	100 reactions	
08003PC	Positive PCR Control Elm Yellows Phytoplasma	1 vial (10 reactions)	
	specific only for primers provided with 08003S/100 and 08003C/100		
08003NC	Negative PCR Control Elm Yellows Phytoplasma	1 vial (10 reactions)	
<b>08004</b>	<b>Stolbur Phytoplasma PCR</b>	<b>Size</b>	
	detects the members of the Stolbur Phytoplasma group.		
08004S/100	Stolbur Phytoplasma PCR set	100 reactions	
08004C/100	Stolbur Phytoplasma complete PCR reaction kit	100 reactions	
08004PC	Positive PCR Control Stolbur Phytoplasma	1 vial (10 reactions)	
	specific only for primers provided with 08004S/100 and 08004C/100		
08004NC	Negative PCR Control Stolbur Phytoplasma	1 vial (10 reactions)	
<b>08009</b>	<b>Universal Phytoplasma nested PCR</b>	<b>Size</b>	
08009S/100	Universal Phytoplasma nested PCR Set	100 reactions	
08009C/100	Universal Phytoplasma nested complete PCR reaction kit	100 reactions	
08009PC	Positive PCR Control Universal Phytoplasma	1 vial (10 reactions)	
08009NC	Negative PCR Control Universal Phytoplasma	1 vial (10 reactions)	
DNA PCR Products - Bacteria			
<b>08154</b>	<b>Acidovorax avenae subsp. citrulli PCR</b>	<b>Size</b>	
08154S/100	Acidovorax avenae subsp. citrulli PCR set	100 reactions	
08154C/100	Acidovorax avenae subsp. citrulli complete PCR reaction kit	100 reactions	
08154PC	Positive PCR Control Acidovorax avenae subsp. citrulli	1 vial (10 reactions)	
08154NC	Negative PCR Control Acidovorax avenae subsp. citrulli	1 vial (10 reactions)	
<b>08058</b>	<b>Clavibacter michiganensis subsp. insidiosus PCR</b>	<b>Size</b>	
08058S/100	Clavibacter michiganensis subsp. insidiosus PCR set	100 reactions	
08058C/100	Clavibacter michiganensis subsp. insidiosus complete PCR reaction kit	100 reactions	
08058PC	Positive PCR Control Clavibacter m. subsp. insidiosus	1 vial (10 reactions)	
08058NC	Negative PCR Control Clavibacter m. subsp. insidiosus	1 vial (10 reactions)	



## Product Section

<b>08063</b>	<b>Clavibacter michiganensis subsp. michiganensis PCR</b>	<b>Size</b>	
08063S/100	Clavibacter michiganensis subsp. michiganensis PCR set	100 reactions	
08063C/100	Clavibacter michiganensis subsp. michiganensis complete PCR reaction kit	100 reactions	
08063PC	Positive PCR Control Clavibacter m. subsp. michiganensis	1 vial (10 reactions)	
08063NC	Negative PCR Control Clavibacter m. subsp. michiganensis	1 vial (10 reactions)	
<b>08064</b>	<b>Clavibacter michiganensis subsp. sepedonicus PCR</b>	<b>Size</b>	
08064S/100	Clavibacter michiganensis subsp. sepedonicus PCR set	100 reactions	
08064C/100	Clavibacter michiganensis subsp. sepedonicus complete PCR reaction kit	100 reactions	
08064PC	Positive PCR Control Clavibacter m. subsp. sepedonicus	1 vial (10 reactions)	
	specific only for primers provided with 08064S/100 and 08064C/100		
08064NC	Negative PCR Control Clavibacter m. subsp. sepedonicus	1 vial (10 reactions)	
<b>08198</b>	<b>Curtobacterium flaccumfaciens pv. flaccumfaciens PCR</b>	<b>Size</b>	
08198S/100	Curtobact. flaccumfaciens pv. flaccumfaciens PCR set	100 reactions	
08198C/100	Curtobact. fl.pv. flaccumfaciens complete PCR reaction kit	100 reactions	
08198PC	Positive PCR Control Curtobact. Flaccumfaciens pv.. flaccumfaciens	1 vial (10 reactions)	
	specific only for primers provided with 08198C/100 or 08198S/100		
08198NC	Negative PCR Control Curtobact. flaccumfaciens pv. flaccumfaciens	1 vial (10 reactions)	
<b>08005</b>	<b>Erwinia amylovora nested PCR</b>	<b>Size</b>	
08005S/100	Erwinia amylovora nested PCR set	100 reactions	
08005C/100	Erwinia amylovora nested complete PCR reaction kit	100 reactions	
08005PC	Positive PCR Control Erwinia amylovora	1 vial (10 reactions)	
08005NC	Negative PCR Control Erwinia amylovora	1 vial (10 reactions)	
<b>08129</b>	<b>Pantoea stewartii subsp. stewartii PCR</b>	<b>Size</b>	
08129S/100	Pantoea stewartii subsp. stewartii PCR set	100 reactions	
08129C/100	Pantoea stewartii subsp. stewartii complete PCR kit	100 reactions	
08129PC	Positive PCR Control Pantoea stewartii subsp. stewartii	1 vial (10 reactions)	
08129NC	Negative PCR Control Pantoea stewartii subsp. stewartii	1 vial (10 reactions)	
<b>08056</b>	<b>Ralstonia solanacearum PCR</b>	<b>Size</b>	
08056S/100	Ralstonia solanacearum PCR set	100 reactions	
08056C/100	Ralstonia solanacearum complete PCR reaction kit	100 reactions	
08056PC	Positive PCR Control Ralstonia solanacearum	1 vial (10 reactions)	
	specific only for primers provided with 08056S/100 and 08056C/100		
08056NC	Negative PCR Control Ralstonia solanacearum	1 vial (10 reactions)	
<b>08170</b>	<b>Rhodococcus fascians pathogenic form PCR</b>	<b>Size</b>	
08170S/100	Rhodococcus fascians pathogenic form PCR set	100 reactions	
08170C/100	Rhodococcus fascians pathogenic form complete PCR reaction kit	100 reactions	
08170PC	Positive PCR Control Rhodococcus fascians pathogenic form	1 vial (10 reactions)	
08170NC	Negative PCR Control Rhodococcus fascians pathogenic form	1 vial (10 reactions)	
<b>08102</b>	<b>Xanthomonas citri subsp.citri PCR</b>	<b>Size</b>	
08102S/100	X. citri subsp. citri PCR set	100 reactions	
08102C/100	X. citri subsp. citri complete PCR reaction kit	100 reactions	
08102PC	Positive PCR Control X. citri subsp. citri	1 vial (10 reactions)	
08102NC	Negative PCR Control X. citri subsp. citri	1 vial (10 reactions)	

## Product Section

08162	<b>Xanthomonas arboricola pv. pruni PCR</b>	Size	
08162S/100	X. arboricola pv. pruni PCR set	100 reactions	
08162C/100	X. arboricola pv. pruni complete PCR reaction kit	100 reactions	
08162PC	Positive PCR Control X. arboricola pv. pruni	1 vial (10 reactions)	
08162NC	Negative PCR Control X. arboricola pv. pruni	1 vial (10 reactions)	
08077	<b>Xanthomonas hortorum pv. pelargonii PCR</b>	Size	
08077S/100	Xanthomonas hortorum pv. pelargonii PCR set	100 reactions	
08077C/100	Xanthomonas hortorum pv. pelargonii complete PCR reaction kit	100 reactions	
08077PC	Positive PCR Control X. hortorum pv. pelargonii	1 vial (10 reactions)	
08077NC	Negative PCR Control X. hortorum pv. pelargonii	1 vial (10 reactions)	
08132	<b>Xanthomonas oryzae PCR</b>	Size	
	detection of X. o. pv. oryzae and pv. oryzicola with the same primer pair		
08132S/100	Xanthomonas oryzae PCR set	100 reactions	
08132C/100	Xanthomonas oryzae complete PCR reaction kit	100 reactions	
08132PC	Positive PCR Control Xanthomonas oryzae specific only for primers provided with 08132S/100 and 08132C/100	1 vial (10 reactions)	
08132NC	Negative PCR control Xanthomonas oryzae	1 vial (10 reactions)	
08138	<b>Xylophilus ampelinus PCR</b>	Size	
	 This kit has been validated during an EU-wide test performance study in the frame of the Horizon2020 project VALITEST ( <a href="http://www.valitest.eu">www.valitest.eu</a> )		
08138S/100	Xylophilus ampelinus PCR set	100 reactions	
08138C/100	Xylophilus ampelinus complete PCR reaction kit	100 reactions	
08138PC	Positive PCR Control Xylophilus ampelinus	1 vial (10 reactions)	
08138NC	Negative PCR Control Xylophilus ampelinus	1 vial (10 reactions)	
08119	<b>Xylella fastidiosa PCR</b>	Size	
08119S/100	Xylella fastidiosa PCR set	100 reactions	
08119C/100	Xylella fastidiosa complete PCR reaction kit	100 reactions	
08119PC	Positive PCR Control Xylella fastidiosa	1 vial (10 reactions)	
08119NC	Negative PCR Control Xylella fastidiosa	1 vial (10 reactions)	
	<b>DNA PCR Products - Fungi</b>		
08195	<b>Colletotrichum spec.</b>	Size	
08195S/100	Colletotrichum spec. PCR set	100 reactions	
08195C/100	Colletotrichum spec. complete PCR reaction kit	100 reactions	
08195PC	Positive PCR Control Colletotrichum spec.	1 vial (10 reactions)	
08195NC	Negative PCR Control Colletotrichum spec.	1 vial (10 reactions)	
08007	<b>Fusarium culmorum PCR</b>	Size	
08007S/100	Fusarium culmorum PCR set	100 reactions	
08007C/100	Fusarium culmorum complete PCR reaction kit	100 reactions	
08007PC	Positive PCR Control F. culmorum	1 vial (10 reactions)	
08007NC	Negative PCR Control F. culmorum	1 vial (10 reactions)	



# LOEWE®FAST Rapid Tests

## Lateral Flow Tests (Rapid Tests)

- Fast – easy – on the spot
- Specific detection of plant pathogens within minutes
- Testing in the field or greenhouse without the need of a laboratory
- **Shipped and stored at ambient temperature!**

## When to use Rapid Tests?

- Fast pre-screening of suspicious plant material in the field or green-house
- Identification of pests or bacterial cultures
- Diagnostic method with good confidence in positive samples with symptoms

## Advantages and Limitation

- Simple, quick procedure on the spot
- No expert staff, special equipment needed
- Fast and cheap sample preparation
- Yes – or no answer



Plant Bacteria



Plant Viruses

## Our Rapid Test Formates

### LOEWE®FAST Kits (Test Cassettes)

Test kits are available for 5, 20, and 50 tests and include:



- Individual test cassettes
- Single-use pipettes
- Pre-filled sample buffer tubes
- Manual
- Analytical data sheet

### LOEWE®FAST-Stick Kits

Test kits are available for 50 tests and include:



- 50 Test sticks
- 50 Sample bags
- 50 Single-use pipettes
- 50 Reaction tubes
- Sample buffer powder
- Manual
- Analytical datasheet

### What's the difference?

Both test formats follow identical lateral flow technology utilizing the same antibodies. They share the same specification regarding specificity and sensitivity.

LOEWE®FAST-Sticks are available for an economic price as they go without individual plastic housings and pre-filled buffers. However, the kits contain all components necessary to perform the tests.

Please watch our video instructions here





Product Section

<b>LF07186</b>	<b>LOEWE®FAST Kit Cucumber Mosaic Virus</b>	<b>Size</b>	
	<b>For rapid detection of CMV in suspected leaves</b>		
LF07186/05	LOEWE®FAST Kit Cucumber Mosaic Virus	5 tests	
LF07186/20	LOEWE®FAST Kit Cucumber Mosaic Virus	20 tests	
LF07186/50	LOEWE®FAST Kit Cucumber Mosaic Virus	50 tests	
LFS07186/50	LOEWE®FAST-Stick Kit Cucumber Mosaic Virus	50 tests	
<b>LF07505</b>	<b>LOEWE®FAST Kit Impatiens Necrotic Spot Virus</b>	<b>Size</b>	
	<b>For rapid detection of INSV in suspected leaves</b>		
LF07505/05	LOEWE®FAST Kit Impatiens Necrotic Spot Virus	5 tests	
LF07505/20	LOEWE®FAST Kit Impatiens Necrotic Spot Virus	20 tests	
LF07505/50	LOEWE®FAST Kit Impatiens Necrotic Spot Virus	50 tests	
LFS07505/50	LOEWE®FAST-Stick Kit Impatiens Necrotic Spot Virus	50 tests	
<b>LF07097</b>	<b>LOEWE®FAST Kit Melon Necrotic Spot Virus</b>	<b>Size</b>	
	<b>For rapid detection of MNSV in suspected leaves</b>		
LF07097/05	LOEWE®FAST Kit Melon Necrotic Spot Virus	5 tests	
LF07097/20	LOEWE®FAST Kit Melon Necrotic Spot Virus	20 tests	
LF07097/50	LOEWE®FAST Kit Melon Necrotic Spot Virus	50 tests	
LFS07097/50	LOEWE®FAST-Stick Kit Melon Necrotic Spot Virus	50 tests	
<b>LF07128</b>	<b>LOEWE®FAST Kit Pepino Mosaic Virus</b>	<b>Size</b>	
	<b>For rapid detection of PepMV in suspected leaves</b>		
LF07128/05	LOEWE®FAST Kit Pepino Mosaic Virus	5 tests	
LF07128/20	LOEWE®FAST Kit Pepino Mosaic Virus	20 tests	
LF07128/50	LOEWE®FAST Kit Pepino Mosaic Virus	50 tests	
LFS07128/50	LOEWE®FAST-Stick Kit Pepino Mosaic Virus	50 tests	
<b>LF07159</b>	<b>LOEWE®FAST Kit Pepper Veinal Mottle Virus</b>	<b>Size</b>	
	<b>For rapid detection of PVMV in suspected leaves</b>		
LF07159/05	LOEWE®FAST Kit Pepper Veinal Mottle Virus	5 tests	
LF07159/20	LOEWE®FAST Kit Pepper Veinal Mottle Virus	20 tests	
LF07159/50	LOEWE®FAST Kit Pepper Veinal Mottle Virus	50 tests	
LFS07159/50	LOEWE®FAST-Stick Kit Pepper Veinal Mottle Virus	50 tests	
<b>LF07037</b>	<b>LOEWE®FAST Kit Potato Virus X</b>	<b>Size</b>	
	<b>For rapid detection of PVX in suspected leaves</b>		
LF07037/05	LOEWE®FAST Kit Potato Virus X	5 tests	
LF07037/20	LOEWE®FAST Kit Potato Virus X	20 tests	
LF07037/50	LOEWE®FAST Kit Potato Virus X	50 tests	
LFS07037/50	LOEWE®FAST-Stick Kit Potato Virus X	50 tests	
<b>LF07038</b>	<b>LOEWE®FAST Kit Potato Virus Y</b>	<b>Size</b>	
	<b>For rapid detection of PVY in suspected leaves</b>		
LF07038/05	LOEWE®FAST Kit Potato Virus Y	5 tests	
LF07038/20	LOEWE®FAST Kit Potato Virus Y	20 tests	
LF07038/50	LOEWE®FAST Kit Potato Virus Y	50 tests	
LFS07038/50	LOEWE®FAST-Stick Kit Potato Virus Y	50 tests	

## Product Section

<b>LF07051</b>	<b>LOEWE@FAST Kit Prune Dwarf Virus</b>	<b>Size</b>	
	<b>For rapid detection of PDV in suspected plant material</b>		
LF07051/05	LOEWE@FAST Kit Prune Dwarf Virus	5 tests	
LF07051/20	LOEWE@FAST Kit Prune Dwarf Virus	20 tests	
LF07051/50	LOEWE@FAST Kit Prune Dwarf Virus	50 tests	
LFS07051/50	LOEWE@FAST-Stick Kit Prune Dwarf Virus	50 tests	
<b>LF07052</b>	<b>LOEWE@FAST Kit Prunus Necrotic Ringspot Virus</b>	<b>Size</b>	
	<b>For rapid detection of PNRV in suspected plant material</b>		
LF07052/05	LOEWE@FAST Kit Prunus Necrotic Ringspot Virus	5 tests	
LF07052/20	LOEWE@FAST Kit Prunus Necrotic Ringspot Virus	20 tests	
LF07052/50	LOEWE@FAST Kit Prunus Necrotic Ringspot Virus	50 tests	
LFS07052/50	LOEWE@FAST-Stick Kit Prunus Necrotic Ringspot Virus	50 tests	
<b>LF07042</b>	<b>LOEWE@FAST Kit Tobacco Mosaic Virus</b>	<b>Size</b>	
	<b>For rapid detection of TMV in suspected leaves</b>		
LF07042 /05	LOEWE@FAST Kit Tobacco Mosaic Virus	5 tests	
LF07042/20	LOEWE@FAST Kit Tobacco Mosaic Virus	20 tests	
LF07042/50	LOEWE@FAST Kit Tobacco Mosaic Virus	50 tests	
LFS07042/50	LOEWE@FAST-Stick Kit Tobacco Mosaic Virus	50 tests	
<b>LF07184</b>	<b>LOEWE@FAST Kit Tobamoscreen I</b>	<b>Size</b>	
	<b>For rapid detection of PMMoV, TMV, ToMV, ToBRFV in suspected leaves</b>		
LF07184 /05	LOEWE@FAST Kit Tobamoscreen I	5 tests	
LF07184/20	LOEWE@FAST Kit Tobamoscreen I	20 tests	
LF07184/50	LOEWE@FAST Kit Tobamoscreen I	50 tests	
LFS07184/50	LOEWE@FAST-Stick Kit Tobamoscreen I	50 tests	
<b>LF07047</b>	<b>LOEWE@FAST Kit Tomato Mosaic Virus</b>	<b>Size</b>	
	<b>For rapid detection of ToMV in suspected leaves</b>		
LF07047/05	LOEWE@FAST Kit Tomato Mosaic Virus	5 tests	
LF07047/20	LOEWE@FAST Kit Tomato Mosaic Virus	20 tests	
LF07047/50	LOEWE@FAST Kit Tomato Mosaic Virus	50 tests	
LFS07047/50	LOEWE@FAST-Stick Kit Tomato Mosaic Virus	50 tests	
<b>LF07509</b>	<b>LOEWE@FAST Kit TSWV, TCSV, GRSV</b>	<b>Size</b>	
	<b>For rapid detection of TSWV, TCSV, GRSV in suspected leaves</b>		
LF07509 /05	LOEWE@FAST Kit TSWV, TCSV, GRSV	5 tests	
LF07509/20	LOEWE@FAST Kit TSWV, TCSV, GRSV	20 tests	
LF07509/50	LOEWE@FAST Kit TSWV, TCSV, GRSV	50 tests	
LFS07509/50	LOEWE@FAST-Stick Kit TSWV, TCSV, GRSV	50 tests	
<b>LF07167</b>	<b>LOEWE@FAST Kit Zucchini Green Mottle Mosaic Virus</b>	<b>Size</b>	
	<b>For rapid detection of ZGMMV in symptomatic plant material.</b>		
LF07167/05	LOEWE@FAST Kit Zucchini Green Mottle Mosaic Virus	5 tests	
LF07167/20	LOEWE@FAST Kit Zucchini Green Mottle Mosaic Virus	20 tests	
LF07167/50	LOEWE@FAST Kit Zucchini Green Mottle Mosaic Virus	50 tests	
LFS07167/50	LOEWE@FAST-Stick Kit Zucchini Green Mottle Mosaic Virus	50 tests	

## Product Section

	<b>LOEWE@FAST - Bacteria</b>	<b>Size</b>	
<b>LF07154</b>	<b>LOEWE@FAST Kit Acidovorax avenae subsp. citrulli</b>	<b>Size</b>	
	<b>For rapid detection of Acidovorax avenae in bacterial cultures</b>		
LF07154/05	LOEWE@FAST Kit Acidovorax avenae subsp. citrulli	5 tests	
LF07154/20	LOEWE@FAST Kit Acidovorax avenae subsp. citrulli	20 tests	
LF07154/50	LOEWE@FAST Kit Acidovorax avenae subsp. citrulli	50 tests	
LFS07154/50	LOEWE@FAST-Stick Kit Acidovorax avenae subsp. citrulli	50 tests	
<b>LF07063</b>	<b>LOEWE@FAST Kit Clavibacter m. subsp. michiganensis</b>	<b>Size</b>	
	<b>For rapid detection of C. m. subsp. michiganensis in bacterial cultures</b>		
LF07063/05	LOEWE@FAST Kit Clavibacter m. subsp. michiganensis	5 tests	
LF07063/20	LOEWE@FAST Kit Clavibacter m. subsp. michiganensis	20 tests	
LF07063/50	LOEWE@FAST Kit Clavibacter m. subsp. michiganensis	50 tests	
LFS07063/50	LOEWE@FAST-Stick Kit Clavibacter m. subsp. michiganensis	50 tests	
<b>LF07064</b>	<b>LOEWE@FAST Kit Clavibacter m. subsp. sepedonicus</b>	<b>Size</b>	
	<b>For rapid detection of C. m. subsp. sepedonicus in bacterial cultures</b>		
LF07064/05	LOEWE@FAST Kit Clavibacter m. subsp. sepedonicus	5 tests	
LF07064/20	LOEWE@FAST Kit Clavibacter m. subsp. sepedonicus	20 tests	
LF07064/50	LOEWE@FAST Kit Clavibacter m. subsp. sepedonicus	50 tests	
LFS07064/50	LOEWE@FAST-Stick Kit Clavibacter m. subsp. sepedonicus	50 tests	
<b>LF07146</b>	<b>LOEWE@FAST Kit Dickeya chrysanthemi</b>	<b>Size</b>	
	<b>For rapid detection of D. chrysanthemi in bacterial cultures</b>		
LF07146/05	LOEWE@FAST Kit Dickeya chrysanthemi	5 tests	
LF07146/20	LOEWE@FAST Kit Dickeya chrysanthemi	20 tests	
LF07146/50	LOEWE@FAST Kit Dickeya chrysanthemi	50 tests	
LFS07146/50	LOEWE@FAST-Stick Kit Dickeya chrysanthemi	50 tests	
<b>LF07129</b>	<b>LOEWE@FAST Kit Pantoea stewartii subsp. stewartii</b>	<b>Size</b>	
	<b>For rapid detection of Pantoea st. subsp. st. in bacterial cultures</b>		
LF07129/05	LOEWE@FAST Kit Pantoea stewartii subsp. stewartii	5 tests	
LF07129/20	LOEWE@FAST Kit Pantoea stewartii subsp. stewartii	20 tests	
LF07129/50	LOEWE@FAST Kit Pantoea stewartii subsp. stewartii	50 tests	
LFS07129/50	LOEWE@FAST-Stick Kit Pantoea stewartii subsp. stewartii	50 tests	
<b>LF07056</b>	<b>LOEWE@FAST Kit Ralstonia solanacearum</b>	<b>Size</b>	
	<b>For rapid detection of R. solanacearum in bacterial cultures</b>		
LF07056/05	LOEWE@FAST Kit Ralstonia solanacearum	5 tests	
LF07056/20	LOEWE@FAST Kit Ralstonia solanacearum	20 tests	
LF07056/50	LOEWE@FAST Kit Ralstonia solanacearum	50 tests	
LFS07056/50	LOEWE@FAST-Stick Kit Ralstonia solanacearum	50 tests	
<b>LF07077</b>	<b>LOEWE@FAST Kit Xanthomonas hortorum pv. pelargonii</b>	<b>Size</b>	
	<b>For rapid detection of X. h. pv. pelargonii in bacterial cultures</b>		
LF07077/05	LOEWE@FAST Kit X. hortorum pv. pelargonii	5 tests	
LF07077/20	LOEWE@FAST Kit X. hortorum pv. pelargonii	20 tests	
LF07077/50	LOEWE@FAST Kit X. hortorum pv. pelargonii	50 tests	
LFS07077/50	LOEWE@FAST-Stick Kit X. hortorum pv. pelargonii	50 tests	







# ELISA Reagents

## Enzyme-linked Immunosorbent Assay – ELISA

is one of the most common method in plant pathogen detection, utilizing specific poly- or monoclonal antibodies and an enzymatic reaction for visualization of positive samples.

We offer a range of 150 high quality ELISA products for specific and sensitive detection of plant pathogens.



### When to use ELISA?

- Routine screening of plant material
- Analysis of suspicious plant material and identification of pests
- Diagnostic method with good confidence in positive samples

### Advantages and Limitation

- Suitable for high throughput screening
- Robust technique – high reproducibility
- Fast and cheap sample preparation
- Best performance with plant viruses some drawbacks with bacteria and fungi (lower specificity)
- Sensitivity lower than molecular methods

## Our ELISA Test Formats and Sizes

### ELISA Sets

ELISA sets contain Coating-IgG and AP-Conjugate for the indicated number of tests.

Sets are available for 100, 300, 500, 1000 and 5000 test formats. One test corresponds to one well in the ELISA plate. Reagents are optimized and evaluated for a test volume of 200µl/well.

### ELISA Complete Kits

ELISA Complete kits are available for 96, 480, for many pathogens as 960 and as 4800 test kits for some pathogens.

#### Kit Content

- ELISA Set (IgG and Conjugate)
- Positive and negative Control
- Wash Buffer (Powder)
- Conjugate/Sample Buffer (Powder)
- Substrate buffer (5x solution)
- Tween20
- p-Nitrophenylphosphate Substrate
- ELISA plates (high-binding)
- Sealing Cover

### ELISA Controls

**Positive controls** are made from infected plant material or bacterial cultures, if not stated otherwise.

Our ELISA controls are only validated for use in ELISA and are intended to monitor the correct performance of the assay in a qualitative manner. It is the responsibility of the user, to verify any other use themselves!

**Restricted Pathogens:** in case of quarantine pests, inactivated positive controls are supplied, which are additionally tested for the absence of infectivity.

**Non-pathogenic 'method' controls** can be used to ensure that the ELISA has been carried out correctly. They are supplied as economic alternative for inactivated positive controls. For pathogens with export restrictions solely method controls can be supplied.

**Negative controls** are made from a healthy host plant and are tested for the absence of the respective pathogen.



## Product Section

07003	Apple Chlorotic Leafspot Trichovirus. ACLSV	Size	
	(Apple Latent Virus 1, Plum Pseudopox Virus, Quince Stunt Virus)	Cocktail ELISA	
	Host range: Rosaceae. Transmission: grafting, mech. inoculation, nematodes.		
07003S/100	Apple Chlorotic Leafspot Virus set / 100	100 tests	
07003S/300	Apple Chlorotic Leafspot Virus set / 300	300 tests	
07003S/500	Apple Chlorotic Leafspot Virus set / 500	500 tests	
07003C/096	Apple Chlorotic Leafspot Virus complete kit / 96	96 tests	
07003C/480	Apple Chlorotic Leafspot Virus complete kit / 480	480 tests	
07003PC	Positive Control Apple Chlorotic Leafspot Virus	1 vial (10 tests)	
07003NC	Negative Control Apple Chlorotic Leafspot Virus	1 vial (10 tests)	
07054	Apple Mosaic llarvirus. ApMV (hop isolate)	Size	
	(Birch Line Pattern Virus, Hop A Virus, Rose Mosaic Virus)	DAS ELISA	
	Host range: hop, Rosaceae. Transmission: grafting, mechanically, pollen?		
07054S/100	Apple Mosaic Virus set / 100	100 tests	
07054S/300	Apple Mosaic Virus set / 300	300 tests	
07054S/500	Apple Mosaic Virus set / 500	500 tests	
07054S/1000	Apple Mosaic Virus set / 1000	1000 tests	
07054C/096	Apple Mosaic Virus complete kit / 96	96 tests	
07054C/480	Apple Mosaic Virus complete kit / 480	480 tests	
07054C/960	Apple Mosaic Virus complete kit / 960	960 tests	
07054PC	Positive Control Apple Mosaic Virus	1 vial (10 tests)	
07054NC	Negative Control Apple Mosaic Virus	1 vial (10 tests)	
07053	Arabis Mosaic Nepovirus. ArMV	Size	
	(Syn.: Ash Ring and Line Pattern Virus, Forsythia Yellow Net Virus,	DAS ELISA	
	Rhubarber Mosaic Virus, Raspberry Yellow Dwarf Virus). Host range: many species.		
	Transmission by grafting, mechanical inoculation, nematodes, seed.		
07053S/100	Arabis Mosaic Virus set / 100	100 tests	
07053S/300	Arabis Mosaic Virus set / 300	300 tests	
07053S/500	Arabis Mosaic Virus set / 500	500 tests	
07053S/1000	Arabis Mosaic Virus set / 1000	1000 tests	
07053C/096	Arabis Mosaic Virus complete kit / 96	96 tests	
07053C/480	Arabis Mosaic Virus complete kit / 480	480 tests	
07053C/960	Arabis Mosaic Virus complete kit / 960	960 tests	
07053PC	Positive Control Arabis Mosaic Virus inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07053NC	Negative Control Arabis Mosaic Virus	1 vial (10 tests)	
07006	Barley Mild Mosaic Bymovirus. BaMMV	Size	
	Host range: barley. Transmission by mechanical inoculation, Polymyxa graminis.	DAS ELISA	
07006S/100	Barley Mild Mosaic Virus set / 100	100 tests	
07006S/300	Barley Mild Mosaic Virus set / 300	300 tests	
07006S/500	Barley Mild Mosaic Virus set / 500	500 tests	
07006C/096	Barley Mild Mosaic Virus complete kit / 96	96 tests	
07006C/480	Barley Mild Mosaic Virus complete kit / 480	480 tests	
07006PC	Positive Control Barley Mild Mosaic Virus	1 vial (10 tests)	
07006NC	Negative Control Barley Mild Mosaic Virus	1 vial (10 tests)	

## Product Section

07004	Barley Stripe Mosaic Hordeivirus. BSMV	Size	
	(Syn.: Barley False Stripe Mosaic Virus, Barley Yellow Stripe Virus, Oat Stripe Mosaic Virus). Host range: barley, maize, oat, wheat etc.	DAS ELISA	
	Transmission by mechanical inoculation, pollen, seed.		
07004S/100	Barley Stripe Mosaic Virus set / 100	100 tests	
07004S/300	Barley Stripe Mosaic Virus set / 300	300 tests	
07004S/500	Barley Stripe Mosaic Virus set / 500	500 tests	
07004C/096	Barley Stripe Mosaic Virus complete kit / 96	96 tests	
07004C/480	Barley Stripe Mosaic Virus complete kit / 480	480 tests	
07004PC	Positive Control Barley Stripe Mosaic Virus	1 vial (10 tests)	
07004NC	Negative Control Barley Stripe Mosaic Virus	1 vial (10 tests)	
07005	Barley Yellow Dwarf Luteovirus (PAV, MAV). BaYDV	Size	
	(Syn.: Cereal Yellow Dwarf Virus, Oat Red Leaf Virus, Rice Giallume Virus, Ryegrass Chlorotic Streak Virus). Host range: barley, rice, rye.	DAS ELISA	
	Transmitted by aphids.		
07005S/100	Barley Yellow Dwarf Virus set / 100	100 tests	
07005S/300	Barley Yellow Dwarf Virus set / 300	300 tests	
07005S/500	Barley Yellow Dwarf Virus set / 500	500 tests	
07005C/096	Barley Yellow Dwarf Virus complete kit / 96	96 tests	
07005C/480	Barley Yellow Dwarf Virus complete kit / 480	480 tests	
07005PC	Positive Control Barley Yellow Dwarf Virus	1 vial (10 tests)	
07005NC	Negative Control Barley Yellow Dwarf Virus	1 vial (10 tests)	
07076	Barley Yellow Mosaic Bymovirus BaYMV	Size	
	Host range: barley.	DAS ELISA	
	Transmission: mechanical inoculation, Polymyxa graminis.		
07076S/100	Barley Yellow Mosaic Virus set / 100	100 tests	
07076S/300	Barley Yellow Mosaic Virus set / 300	300 tests	
07076S/500	Barley Yellow Mosaic Virus set / 500	500 tests	
07076C/096	Barley Yellow Mosaic Virus complete kit / 96	96 tests	
07076C/480	Barley Yellow Mosaic Virus complete kit / 480	480 tests	
07076PC	Positive Control Barley Yellow Mosaic Virus	1 vial (10 tests)	
07076NC	Negative Control Barley Yellow Mosaic Virus	1 vial (10 tests)	
07127	Bean Common Mosaic Potyvirus. Serotype B. BCMV	Size	
	(Syn.: Bean Common Mosaic Virus Serotype B, Bean Mosaic Virus, Bean Western Mosaic Virus, Mungbean Mosaic Virus). Host range: bean species.	DAS ELISA	
	Transmission by aphids, mechanical inoculation, seed.		
07127S/100	Bean Common Mosaic Virus set / 100	100 tests	
07127S/300	Bean Common Mosaic Virus set / 300	300 tests	
07127S/500	Bean Common Mosaic Virus set / 500	500 tests	
07127C/096	Bean Common Mosaic Virus complete kit / 96	96 tests	
07127C/480	Bean Common Mosaic Virus complete kit / 480	480 tests	
07127PC	Positive Control Bean Common Mosaic Virus	1 vial (10 tests)	
07127NC	Negative Control Bean Common Mosaic Virus	1 vial (10 tests)	



## Product Section

07126	Bean Common Mosaic V. / Bean Common Mosaic Necrosis V.	Size	
	Detects serotypes A and B.		
	Host range: bean species. Transmission: aphids, mechanical inoculation, seed.	DAS ELISA	
07126S/100	Bean Common Mosaic V. / Bean Common Mosaic Necrosis V. set / 100	100 tests	
07126S/300	Bean Common Mosaic V. / Bean Common Mosaic Necrosis V. set / 300	300 tests	
07126S/500	Bean Common Mosaic V. / Bean Common Mosaic Necrosis V. set / 500	500 tests	
07126C/096	Bean Common Mosaic V. / Bean Common Mosaic Necrosis V. complete kit / 96	96 tests	
07126C/480	Bean Common Mosaic V. / Bean Common Mosaic Necrosis V. complete kit / 480	480 tests	
07127PC	Positive Control Bean Common Mosaic Necrosis Virus	1 vial (10 tests)	
07127NC	Negative Control Bean Common Mosaic Necrosis Virus	1 vial (10 tests)	
07007	Bean Yellow Mosaic Potyvirus. BYMV	Size	
	(Syn.: Bean Virus 2, Canna Mosaic Virus, Croatian Clover Mosaic Virus)	DAS ELISA	
	Host range: Iridaceae, Leguminosae etc.		
	Transmission: aphids, mechanical inoculation, seed.		
07007S/100	Bean Yellow Mosaic Virus set / 100	100 tests	
07007S/300	Bean Yellow Mosaic Virus set / 300	300 tests	
07007S/500	Bean Yellow Mosaic Virus set / 500	500 tests	
07007S/1000	Bean Yellow Mosaic Virus set / 1000	1000 tests	
07007C/096	Bean Yellow Mosaic Virus complete kit / 96	96 tests	
07007C/480	Bean Yellow Mosaic Virus complete kit / 480	480 tests	
07007/960	Bean Yellow Mosaic Virus complete kit / 960	960 tests	
07007PC	Positive Control Bean Yellow Mosaic Virus	1 vial (10 tests)	
07007NC	Negative Control Bean Yellow Mosaic Virus	1 vial (10 tests)	
07250	Beet Black Scorch Tombusvirus. BBSV		
	Host range: sugar beet.		
	Transmission: putative by Olpidium brassicae zoospores.		
07250S/100	Beet Black Scorch Virus set / 100	100 tests	
07250S/300	Beet Black Scorch Virus set / 300	300 tests	
07250S/500	Beet Black Scorch Virus set / 500	500 tests	
07250C/096	Beet Black Scorch Virus complete kit / 96	96 tests	
07250C/480	Beet Black Scorch Virus complete kit / 480	480 tests	
07250PC	Positive Control Beet Black Scorch Virus	1 vial (10 tests)	
07250NC	Negative Control Beet Black Scorch Virus	1 vial (10 tests)	
07010	Beet Mosaic Potyvirus. BtMV	Size	
	(Syn.: Spinach Mosaic Virus, Sugar Beet Mosaic Virus)	DAS ELISA	
	Host range: Chenopodiaceae.		
	Transmission by aphids.		
07010S/100	Beet Mosaic Virus set / 100	100 tests	
07010S/300	Beet Mosaic Virus set / 300	300 tests	
07010S/500	Beet Mosaic Virus set / 500	500 tests	
07010S/1000	Beet Mosaic Virus set / 1000	1000 tests	
07010C/096	Beet Mosaic Virus complete kit / 96	96 tests	
07010C/480	Beet Mosaic Virus complete kit / 480	480 tests	
07010C/960	Beet Mosaic Virus complete kit / 960	960 tests	
07010PC	Positive Control Beet Mosaic Virus	1 vial (10 tests)	
07010NC	Negative Control Beet Mosaic Virus	1 vial (10 tests)	

## Product Section

07011	Beet Necrotic Yellow Vein Benyvirus. BNYVV	Size	
	(Syn.: Rizomania, Rübenwurzelbärtigkeitsvirus)	DAS ELISA	
	Host range: Chenopodiaceae.		
	Transmission: mechanical inoculation, Polymyxa betae.		
07011S/100	Beet Necrotic Yellow Vein Virus set / 100	100 tests	
07011S/300	Beet Necrotic Yellow Vein Virus set / 300	300 tests	
07011S/500	Beet Necrotic Yellow Vein Virus set / 500	500 tests	
07011C/096	Beet Necrotic Yellow Vein Virus complete kit / 96	96 tests	
07011C/480	Beet Necrotic Yellow Vein Virus complete kit / 480	480 tests	
07011PC	Positive Control Beet Necrotic Yellow Vein Virus	1 vial (10 tests)	
07011NC	Negative Control Beet Necrotic Yellow Vein Virus	1 vial (10 tests)	
07012	Beet Yellows Closterovirus. BYV	Size	
	(Syn.: Sugar Beet Yellows Virus). Host range Chenopodiaceae.	DAS ELISA	
	Transmission by aphids.		
07012S/100	Beet Yellows Virus set / 100	100 tests	
07012S/300	Beet Yellows Virus set / 300	300 tests	
07012S/500	Beet Yellows Virus set / 500	500 tests	
07012C/096	Beet Yellows Virus complete kit / 96	96 tests	
07012C/480	Beet Yellows Virus complete kit / 480	480 tests	
07012PC	Positive Control Beet Yellows Virus	1 vial (10 tests)	
07012NC	Negative Control Beet Yellows Virus	1 vial (10 tests)	
07015	Broad Bean Wilt Fabavirus. BBWV I	Size	
	(Syn.: Nasturtium Ringspot Virus, Petunia Ringspot Virus, Pea Streak Virus, Ringmosaikvirus der Kapuzinerkresse). Host range many species.	DAS ELISA	
	Transmission by aphids, mechanical inoculation.		
07015S/100	Broad Bean Wilt Virus I set / 100	100 tests	
07015S/300	Broad Bean Wilt Virus I set / 300	300 tests	
07015S/500	Broad Bean Wilt Virus I set / 500	500 tests	
07015S/1000	Broad Bean Wilt Virus I set / 1000	1000 tests	
07015C/096	Broad Bean Wilt Virus I complete kit / 96	96 tests	
07015C/480	Broad Bean Wilt Virus I complete kit / 480	480 tests	
07015C/960	Broad Bean Wilt Virus I complete kit / 960	960 tests	
07015PC	Positive Control Broad Bean Wilt Virus I	1 vial (10 tests)	
07015NC	Negative Control Broad Bean Wilt Virus I	1 vial (10 tests)	
07017	Broad Bean Wilt Fabavirus II. BBWV II	Size	
	(Syn.: Plantago II virus, Patchouli Mild Mosaic Virus).	DAS ELISA	
	Host range: many species.		
	Transmission by aphids, mechanical inoculation.		
07017S/100	Broad Bean Wilt Virus II set / 100	100 tests	
07017S/300	Broad Bean Wilt Virus II set / 300	300 tests	
07017S/500	Broad Bean Wilt Virus II set / 500	500 tests	
07017S/1000	Broad Bean Wilt Virus II set / 1000	1000 tests	
07017C/096	Broad Bean Wilt Virus II complete kit / 96	96 tests	
07017C/480	Broad Bean Wilt Virus II complete kit / 480	480 tests	
07017C/960	Broad Bean Wilt Virus II complete kit / 960	960 tests	
07017PC	Positive Control Broad Bean Wilt Virus II	1 vial (10 tests)	
07017NC	Negative Control Broad Bean Wilt Virus II	1 vial (10 tests)	

## Product Section

07016	<b>Brome Mosaic Bromovirus. BMV</b>	<b>Size</b>	
	(Syn.: Rye Grass Streak Virus, Trespenmosaik Virus, Weidelgrasmosaik Virus)	DAS ELISA	
	Host range: barley, maize, rye.		
	Transmission by nematode (Xiphinemia).		
07016S/100	Brome Mosaic Virus set / 100	100 tests	
07016S/300	Brome Mosaic Virus set/ 300	300 tests	
07016S/500	Brome Mosaic Virus set / 500	500 tests	
07016S/1000	Brome Mosaic Virus set / 1000	1000 tests	
07016C/096	Brome Mosaic Virus complete kit / 96	96 tests	
07016C/480	Brome Mosaic Virus complete kit / 480	480 tests	
07016C/960	Brome Mosaic Virus complete kit / 960	960 tests	
07016PC	Positive Control Brome Mosaic Virus	1 vial (10 tests)	
07016NC	Negative Control Brome Mosaic Virus	1 vial (10 tests)	
07123	<b>Brome Streak Mosaic Tritimovirus. BStV</b>	<b>Size</b>	
	Host range: Gramineae. Transmission by erythrophoid mites.	DAS ELISA	
07123S/100	Brome Streak Mosaic Virus set / 100	100 tests	
07123S/300	Brome Streak Mosaic Virus set / 300	300 tests	
07123S/500	Brome Streak Mosaic Virus set / 500	500 tests	
07123C/096	Brome Streak Mosaic Virus complete kit / 96	96 tests	
07123C/480	Brome Streak Mosaic Virus complete kit / 480	480 tests	
07123PC	Positive Control Brome Streak Mosaic Virus	1 vial (10 tests)	
07123NC	Negative Control Brome Streak Mosaic Virus	1 vial (10 tests)	
07008	<b>Calibrachoa Mottle Carmovirus. CbMV</b>	<b>Size</b>	
	Host range: Petunia, Calibrachoa. Transmission: mechanical inoculation.	DAS ELISA	
07008S/100	Calibrachoa Mottle Virus set / 100	100 tests	
07008S/300	Calibrachoa Mottle Virus set / 300	300 tests	
07008S/500	Calibrachoa Mottle Virus set / 500	500 tests	
07008C/096	Calibrachoa Mottle Virus complete kit / 96	96 tests	
07008C/480	Calibrachoa Mottle Virus complete kit / 480	480 tests	
07008PC	Positive Control Calibrachoa Mottle Virus	1 vial (10 tests)	
07008NC	Negative Control Calibrachoa Mottle Virus	1 vial (10 tests)	
07078	<b>Carnation Latent Carla Virus. CLV</b>	<b>Size</b>	
	(Syn.: Dulcamara A Virus, Dulcamara B Virus). Host range: carnation spp.	DAS ELISA	
	Transmission by aphids, mechanical inoculation.		
07078S/100	Carnation Latent Virus set / 100	100 tests	
07078S/300	Carnation Latent Virus set / 300	300 tests	
07078S/500	Carnation Latent Virus set / 500	500 tests	
07078C/096	Carnation Latent Virus complete kit / 96	96 tests	
07078C/480	Carnation Latent Virus complete kit / 480	480 tests	
07078PC	Positive Control Carnation Latent Virus	1 vial (10 tests)	
07078NC	Negative Control Carnation Latent Virus	1 vial (10 tests)	
07057	<b>Carnation Mottle Carmovirus. CarMV</b>	<b>Size</b>	
	Host range: Begonia, Dianthus spp. Transmission by contact , grafting, mech. inoculation.	DAS ELISA	
07057S/100	Carnation Mottle Virus set / 100	100 tests	
07057S/300	Carnation Mottle Virus set / 300	300 tests	
07057S/500	Carnation Mottle Virus set / 500	500 tests	
	continued on next page.		



## Product Section

07057C/096	Carnation Mottle Virus complete kit / 96	96 tests	
07057C/480	Carnation Mottle Virus complete kit / 480	480 tests	
07057PC	Positive Control Carnation Mottle Virus	1 vial (10 tests)	
07057NC	Negative Control Carnation Mottle Virus	1 vial (10 tests)	
<b>07019</b>	<b>Carnation Ringspot Dianthovirus. CRSV</b>	<b>Size</b>	
	Host range: carnation spp. Transmission by contact, grafting, mech. Inocul., nematodes.	DAS ELISA	
07019S/100	Carnation Ringspot Virus set / 100	100 tests	
07019S/300	Carnation Ringspot Virus set / 300	300 tests	
07019S/500	Carnation Ringspot Virus set / 500	500 tests	
07019C/096	Carnation Ringspot Virus complete kit / 96	96 tests	
07019C/480	Carnation Ringspot Virus complete kit / 480	480 tests	
07019PC	Positive Control Carnation Ringspot Virus	1 vial (10 tests)	
07019NC	Negative Control Carnation Ringspot Virus	1 vial (10 tests)	
<b>07020</b>	<b>Carnation Vein Mottle Potyvirus. CVMV</b>	<b>Size</b>	
	Host range: carnation spp. Transmission: aphids, mechanical inoculation.	DAS ELISA	
07020S/100	Carnation Vein Mottle Virus set / 100	100 tests	
07020S/300	Carnation Vein Mottle Virus set / 300	300 tests	
07020S/500	Carnation Vein Mottle Virus set / 500	500 tests	
07020C/096	Carnation Vein Mottle Virus complete kit / 96	96 tests	
07020C/480	Carnation Vein Mottle Virus complete kit / 480	480 tests	
07020PC	Positive Control Carnation Vein Mottle Virus	1 vial (10 tests)	
07020NC	Negative Control Carnation Vein Mottle Virus	1 vial (10 tests)	
<b>07072</b>	<b>Celery Mosaic Potyvirus. CeMV</b>	<b>Size</b>	
	(Syn.: Apium Virus 1, Western Celery Mosaic V., Celery Crinkleleaf V., Celery Ringspot V., Poison Hemlock Ringspot V.) Host range: carrot, celery, coriander, parsley, parsnip. Transmission by aphids, mechanical inoculation.	DAS ELISA	
07072S/100	Celery Mosaic Virus set / 100	100 tests	
07072S/300	Celery Mosaic Virus set / 300	300 tests	
07072S/500	Celery Mosaic Virus set / 500	500 tests	
07072C/096	Celery Mosaic Virus complete kit / 96	96 tests	
07072C/480	Celery Mosaic Virus complete kit / 480	480 tests	
07072PC	Positive Control Celery Mosaic Virus	1 vial (10 tests)	
07072NC	Negative Control Celery Mosaic Virus	1 vial (10 tests)	
<b>07093</b>	<b>Cherry Leafroll Nepovirus b (birch isolate). CLRV b</b>	<b>Size</b>	
	(Syn.: Ash Mosaic Virus, Elm Mosaic Virus, Golden Elderberry Virus, Sambucus Ringspot Virus). Host range many deciduous trees. Transmission by mechanical inoculation, nematodes.	DAS ELISA	
07093S/100	Cherry Leafroll Virus b set / 100	100 tests	
07093S/300	Cherry Leafroll Virus b set / 300	300 tests	
07093S/500	Cherry Leafroll Virus b set / 500	500 tests	
07093S/1000	Cherry Leafroll Virus b set / 1000	1000 tests	
07093C/096	Cherry Leafroll Virus b complete kit / 96	96 tests	
07093C/480	Cherry Leafroll Virus b complete kit / 480	480 tests	
07093C/960	Cherry Leafroll Virus b complete kit / 960	960 tests	
07093PC	Positive Control Cherry Leafroll Virus b inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07093NC	Negative Control Cherry Leafroll Virus b	1 vial (10 tests)	

## Product Section

	<b>Chilli Mottle Potyvirus see Pepper Mottle Potyvirus</b>		
<b>07185</b>	<b>Chilli Veinal Mottle Potyvirus. ChiVMV</b>	<b>Size</b>	
	Host range Capsicum species. Transmission by aphids, mech. inoculation.	DAS ELISA	
07185S/100	Chilli Veinal Mottle Virus set / 100	100 tests	
07185S/300	Chilli Veinal Mottle Virus set / 300	300 tests	
07185S/500	Chilli Veinal Mottle Virus set / 500	500 tests	
07185C/096	Chilli Veinal Mottle Virus complete kit / 96	96 tests	
07185C/480	Chilli Veinal Mottle Virus complete kit / 480	480 tests	
07185PC	Positive Control Chilli Veinal Mottle Virus	1 vial (10 tests)	
07185NC	Negative Control Chilli Veinal Mottle Virus	1 vial (10 tests)	
<b>07021</b>	<b>Chrysanthemum Carlavirus B. CVB</b>	<b>Size</b>	
	(Syn.: Chrysanthemum Virus Q, Chrysanthemum Dwarf Mottle Virus, Chrysanthemum Necrotic Mottle Virus. Host range: Chrysanthemum spp. Transmission by aphids, grafting, mechanical inoculation.	DAS ELISA	
07021S/100	Chrysanthemum Virus B set / 100	100 tests	
07021S/300	Chrysanthemum Virus B set / 300	300 tests	
07021S/500	Chrysanthemum Virus B set / 500	500 tests	
07021C/096	Chrysanthemum Virus B complete kit / 96	96 tests	
07021C/480	Chrysanthemum Virus B complete kit / 480	480 tests	
07021PC	Positive Control Chrysanthemum Virus B	1 vial (10 tests)	
07021NC	Negative Control Chrysanthemum Virus B	1 vial (10 tests)	
<b>07099</b>	<b>Citrus Tristeza Closterovirus. CTV</b>	<b>Size</b>	
	(Syn.: Citrus Quick Decline Virus, Hassaku Dwarf Lime Dieback Virus). Host range: citrus spp. Transmission by aphids, grafting.	DAS ELISA	
07099S/100	Citrus Tristeza Virus set / 100	100 tests	
07099S/300	Citrus Tristeza Virus set / 300	300 tests	
07099S/500	Citrus Tristeza Virus set / 500	500 tests	
07099S/1000	Citrus Tristeza Virus set / 1000	1000 tests	
07099S/5000	Citrus Tristeza Virus set / 5000	5000 tests	
07099C/096	Citrus Tristeza Virus complete kit / 96	96 tests	
07099C/480	Citrus Tristeza Virus complete kit / 480	480 tests	
07099C/960	Citrus Tristeza Virus complete kit / 960	960 tests	
07099C/4800	Citrus Tristeza Virus complete kit / 4800	4800 tests	
07099PC	Positive Control Citrus Tristeza Virus inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07099NC	Negative Control Citrus Tristeza Virus	1 vial (10 tests)	
<b>07199</b>	<b>Common Oak Ringspot associated Emaravirus. CORaV</b>	<b>Size</b>	
	Host range: mostly oak		
07199S/100	Common Oak Ringspot associated Virus set / 100	100 tests	
07199S/300	Common Oak Ringspot associated Virus set / 300	300 tests	
07199S/500	Common Oak Ringspot associated Virus set / 500	500 tests	
07199S/1000	Common Oak Ringspot associated Virus set / 1000	1000 tests	
07199S/096	Common Oak Ringspot associated Virus complete kit /096	96 tests	
07199S/490	Common Oak Ringspot associated Virus complete kit /480	480 tests	
07199C/960	Common Oak Ringspot associated Virus complete kit /960	960 tests	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07199NC	Negative Control Common Oak Ringspot associated Virus	1 vial (10 tests)	

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07166	Cowpea Mild Mottle Carlavirus. CPMMV	Size	
	(Syn.: Bean Angular Mosaic Virus, Voandezia Mosaic Virus, Groundnut Crinkle Virus). Host range: Leguminosae.	DAS ELISA	
	Transmission by Bemisia tabacci, mechanical inoculation, seed.		
07166S/100	Cowpea Mild Mottle Virus set / 100	100 tests	
07166S/300	Cowpea Mild Mottle Virus set / 300	300 tests	
07166S/500	Cowpea Mild Mottle Virus set / 500	500 tests	
07166C/096	Cowpea Mild Mottle Virus complete kit / 96	96 tests	
07166C/480	Cowpea Mild Mottle Virus complete kit / 480	480 tests	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07166NC	Negative Control Cowpea Mild Mottle Virus	1 vial (10 tests)	
07022	Cucumber Green Mottle Mosaic Tobamovirus. CGMMV	Size	
	(Syn.: Tobacco Mosaic Virus watermelon strain, Cucumber Virus 3)	DAS ELISA	
	Host range: Cucurbitaceae. Transmission: mech. Inoculation, infection via roots.		
07022S/100	Cucumber Green Mottle Mosaic Virus set / 100	100 tests	
07022S/300	Cucumber Green Mottle Mosaic Virus set / 300	300 tests	
07022S/500	Cucumber Green Mottle Mosaic Virus set / 500	500 tests	
07022S/1000	Cucumber Green Mottle Mosaic Virus set / 1000	1000 tests	
07022C/5000	Cucumber Green Mottle Mosaic Virus set / 5000	5000 tests	
07022C/096	Cucumber Green Mottle Mosaic Virus complete kit / 96	96 tests	
07022C/480	Cucumber Green Mottle Mosaic Virus complete kit / 480	480 tests	
07022C/960	Cucumber Green Mottle Mosaic Virus complete kit / 960	960 tests	
07022C/4800	Cucumber Green Mottle Mosaic Virus complete kit / 4800	4800 tests	
07022PC	Positive Control Cucumber Green Mottle Mosaic Virus	1 vial (10 tests)	
07022NC	Negative Control Cucumber Green Mottle Mosaic Virus	1 vial (10 tests)	
07108	Cucumber Mosaic Cucumovirus DTL/ToRS. CMV DTL/ToRS	Size	
	Artificial mixture DTL/ToRS, detects CMV serogroups 1 and 2	DAS ELISA	
	Host range: many species. Transmission by aphids, seed.		
07108S/100	Cucumber Mosaic Virus DTL/ToRS / 100	100 tests	
07108S/300	Cucumber Mosaic Virus DTL/ToRS / 300	300 tests	
07108S/500	Cucumber Mosaic Virus DTL/ToRS / 500	500 tests	
07108S/1000	Cucumber Mosaic Virus DTL/ToRS / 1000	1000 tests	
07108S/5000	Cucumber Mosaic Virus DTL/ToRS / 5000	5000 tests	
07108C/096	Cucumber Mosaic Virus DTL/ToRS complete kit / 96	96 tests	
07108C/480	Cucumber Mosaic Virus DTL/ToRS complete kit / 480	480 tests	
07108C/960	Cucumber Mosaic Virus DTL/ToRS complete kit / 960	960 tests	
07108C/4800	Cucumber Mosaic Virus DTL/ToRS complete kit / 4800	4800 tests	
07108PC	Positive Control Cucumber Mosaic Virus	1 vial (10 tests)	
07108NC	Negative Control Cucumber Mosaic Virus	1 vial (10 tests)	
07075	Cucurbit Chlorotic Yellows Crinivirus. CCYV	Size	
	Host range: Cucurbitaceae. Transmission by Bemisia tabacchi.	DAS ELISA	
07075S/100	Cucurbit Chlorotic Yellows Virus set / 100	100 tests	
07075S/300	Cucurbit Chlorotic Yellows Virus set / 300	300 tests	
07075S/500	Cucurbit Chlorotic Yellows Virus set / 500	500 tests	
07075C/096	Cucurbit Chlorotic Yellows Virus complete kit / 96	96 tests	
07075C/ 480	Cucurbit Chlorotic Yellows Virus complete kit / 480	480 tests	
07075PC	Positive Control Cucurbit Chlorotic Yellows Virus	1 vial (10 tests)	
07075NC	Negative Control Cucurbit Chlorotic Yellows Virus	1 vial (10 tests)	

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07155	<b>Cucurbit Yellow Stunting Disorder Crinivirus. CYSDV</b>	Size	
	Host range: Cucurbitaceae. Transmission by Bemisia tabacchi.	DAS ELISA	
07155S/100	Cucurbit Yellow Stunting Disorder Virus set / 100	100 tests	
07155S/300	Cucurbit Yellow Stunting Disorder Virus set / 300	300 tests	
07155S/500	Cucurbit Yellow Stunting Disorder Virus set / 500	500 tests	
07155C/096	Cucurbit Yellow Stunting Disorder Virus complete kit / 96	96 tests	
07155C/480	Cucurbit Yellow Stunting Disorder Virus complete kit / 480	480 tests	
07155PC	Positive Control Cucurbit Yellow Stunting Disorder Virus	1 vial (10 tests)	
07155NC	Negative Control Cucurbit Yellow Stunting Disorder Virus	1 vial (10 tests)	
07018	<b>Cymbidium Mosaic Potexvirus. CymMV</b>	Size	
	(Orchid Mosaic Virus). Host range: orchids	DAS ELISA	
	Transmission by contacts between plants, mechanical inoculation.		
07018S/100	Cymbidium Mosaic Virus set / 100	100 tests	
07018S/300	Cymbidium Mosaic Virus set / 300	300 tests	
07018S/500	Cymbidium Mosaic Virus set / 500	500 tests	
07018S/1000	Cymbidium Mosaic Virus set / 1000	1000 tests	
07018C/096	Cymbidium Mosaic Virus complete kit / 96	96 tests	
07018C/480	Cymbidium Mosaic Virus complete kit / 480	480 tests	
07018C/960	Cymbidium Mosaic Virus complete kit / 960	960 tests	
07018PC	Positive Control Cymbidium Mosaic Virus	1 vial (10 tests)	
07018NC	Negative Control Cymbidium Mosaic Virus	1 vial (10 tests)	
07024	<b>Cymbidium Ringspot Tombusvirus. CymRSV</b>	Size	
	Host range: Cymbidium spp., Trifolium repens.	DAS ELISA	
	Transmission by contact between plants, mechanical inoculation.		
07024S/100	Cymbidium Ringspot Virus set / 100	100 tests	
07024S/300	Cymbidium Ringspot Virus set / 300	300 tests	
07024S/500	Cymbidium Ringspot Virus set / 500	500 tests	
07024C/096	Cymbidium Ringspot Virus complete kit	96 tests	
07024C/480	Cymbidium Ringspot Virus complete kit	480 tests	
07024PC	Positive Control Cymbidium Ringspot Virus	1 vial (10 tests)	
07024NC	Negative Control Cymbidium Ringspot Virus	1 vial (10 tests)	
07169	<b>Eggplant Mottled Dwarf Nucleorhabdovirus. EMDV</b>	Size	
	(Syn.: Tomato Vein Chlorosis V., Tomato Yellow Vein V., Tomato Vein Clearing V.)	DAS ELISA	
	Host range: Cucumber, Hibiscus, Petunia, Tobacco, Tomato.		
	Transmission by aphids, leafhoppers, mites, mechan. inoculation.		
07169S/100	Eggplant Mottled Dwarf Virus set / 100	100 tests	
07169S/300	Eggplant Mottled Dwarf Virus set / 300	300 tests	
07169S/500	Eggplant Mottled Dwarf Virus set /500	500 tests	
07169C/096	Eggplant Mottled Dwarf Virus complete kit / 96	96 tests	
07169C/480	Eggplant Mottled Dwarf Virus complete kit / 480	480 tests	
07169PC	Positive Control Eggplant Mottled Dwarf Virus	1 vial (10 tests)	
07169NC	Negative Control Eggplant Mottled Dwarf Virus	1 vial (10 tests)	

## Product Section

07025	Freesia Mosaic Potyvirus. FreMV	Size	
	Host range: Freesia. Transmission by aphids, mechanical inoculation.	DAS ELISA	
07025S/100	Freesia Mosaic Virus set / 100	100 tests	
07025S/300	Freesia Mosaic Virus set / 300	300 tests	
07025S/500	Freesia Mosaic Virus set / 500	500 tests	
07025C/096	Freesia Mosaic Virus complete kit / 96	96 tests	
07025C/480	Freesia Mosaic Virus complete kit / 480	480 tests	
07025PC	Positive Control Freesia Mosaic Virus	1 vial (10 tests)	
07025NC	Negative Control Freesia Mosaic Virus	1 vial (10 tests)	
07092	Grapevine Algerian Latent Tombusvirus. GALV	Size	
	Host range: grapevine, statice, nipple fruit. Transmission without vector, mech. Inocul.	DAS ELISA	
07092S/100	Grapevine Algerian Latent Virus set / 100	100 tests	
07092S/300	Grapevine Algerian Latent Virus set / 300	300 tests	
07092S/500	Grapevine Algerian Latent Virus set / 500	500 tests	
07092S/1000	Grapevine Algerian Latent Virus set / 1000	1000 tests	
07092C/096	Grapevine Algerian Latent Virus complete kit / 96	96 tests	
07092C/480	Grapevine Algerian Latent Virus complete kit / 480	480 tests	
07092C/960	Grapevine Algerian Latent Virus complete kit / 960	960 tests	
07092PC	Positive Control Grapevine Algerian Latent Virus	1 vial (10 tests)	
07092NC	Negative Control Grapevine Algerian Latent Virus	1 vial (10 tests)	
07055	Grapevine Fanleaf Nepovirus. GFLV	Size	
	Host range: grapevine. Transmission by mechanical inoculation, nematodes.	DAS ELISA	
07055S/100	Grapevine Fanleaf Virus set / 100	100 tests	
07055S/300	Grapevine Fanleaf Virus set / 300	300 tests	
07055S/500	Grapevine Fanleaf Virus set / 500	500 tests	
07055S/1000	Grapevine Fanleaf Virus set / 1000	1000 tests	
07055C/096	Grapevine Fanleaf Virus complete kit / 96	96 tests	
07055C/480	Grapevine Fanleaf Virus complete kit / 480	480 tests	
07055C/960	Grapevine Fanleaf Virus complete kit / 960	960 tests	
07055PC	Positive Control Grapevine Fanleaf Virus inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07055NC	Negative Control Grapevine Fanleaf Virus	1 vial (10 tests)	
07191	Grapevine Leafroll associated Virus-1. GLRaV-1 Ampelovirus	Size	
	Host range: grapevine. Transmission by grafting and insect vectors.	DAS ELISA	
07191S/100	Grapevine Leafroll associated Virus - 1 set / 100	100 tests	
07191S/300	Grapevine Leafroll associated Virus - 1 set / 300	300 tests	
07191S/500	Grapevine Leafroll associated Virus - 1 set / 500	500 tests	
07191S/1000	Grapevine Leafroll associated Virus - 1 set / 1000	1000 tests	
07191S/5000	Grapevine Leafroll associated Virus - 1 set / 5000	5000 tests	
07191C/096	Grapevine Leafroll associated Virus - 1 complete kit / 96	96 tests	
07191C/480	Grapevine Leafroll associated Virus - 1 complete kit / 480	480 tests	
07191C/960	Grapevine Leafroll associated Virus - 1 complete kit / 960	960 tests	
07191C/4800	Grapevine Leafroll associated Virus - 1 complete kit / 4800	4800 tests	1560.00
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07191NC	Negative Control Grapevine Leafroll associated Virus - 1	1 vial (10 tests)	

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07190	Grapevine Leafroll associated Virus-3. GLRaV-3 Ampelovirus	Size	
	Host range: grapevine. Transmission by grafting and insect vectors.	DAS ELISA	
07190S/100	Grapevine Leafroll associated Virus - 3 set / 100	100 tests	
07190S/300	Grapevine Leafroll associated Virus - 3 set / 300	300 tests	
07190S/500	Grapevine Leafroll associated Virus - 3 set / 500	500 tests	
07190S/1000	Grapevine Leafroll associated Virus - 3 set / 1000	1000 tests	
07190S/5000	Grapevine Leafroll associated Virus - 3 set / 5000	5000 tests	
07190C/096	Grapevine Leafroll associated Virus - 3 complete kit / 96	96 tests	
07190C/480	Grapevine Leafroll associated Virus - 3 complete kit / 480	480 tests	
07190C/960	Grapevine Leafroll associated Virus - 3 complete kit / 960	960 tests	
07190C/4800	Grapevine Leafroll associated Virus - 3 complete kit / 4800	4800 tests	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07190NC	Negative Control Grapevine Leafroll associated Virus - 3	1 vial (10 tests)	
07197	Grapevine Leafroll associated Virus-7. GLRaV-7 tentative Velarivirus	Size	
	Host range: grapevine. Transmission by grafting and insect vectors.	DAS ELISA	
07197S/100	Grapevine Leafroll associated Virus - 7 set / 100	100 tests	
07197S/300	Grapevine Leafroll associated Virus - 7 set / 300	300 tests	
07197S/500	Grapevine Leafroll associated Virus - 7 set / 500	500 tests	
07197S/1000	Grapevine Leafroll associated Virus - 7 set / 1000	1000 tests	
07197S/5000	Grapevine Leafroll associated Virus - 7 set / 5000	5000 tests	
07197C/096	Grapevine Leafroll associated Virus - 7 complete kit / 96	96 tests	
07197C/480	Grapevine Leafroll associated Virus - 7 complete kit / 480	480 tests	
07197C/960	Grapevine Leafroll associated Virus - 7 complete kit / 960	960 tests	
07197C/4800	Grapevine Leafroll associated Virus - 7 complete kit / 4800	4800 tests	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07197NC	Negative Control Grapevine Leafroll associated Virus - 7	1 vial (10 tests)	
07105	Hop Mosaic Carlavirus. HpMV	Size	
	Host range: Hop, stinging nettle.	DAS ELISA	
	Transmission by aphids, mechanical inoculation.		
07105S/100	Hop Mosaic Virus set / 100	100 tests	
07105S/300	Hop Mosaic Virus set / 300	300 tests	
07105S/500	Hop Mosaic Virus set / 500	500 tests	
07105S/1000	Hop Mosaic Virus set / 1000	1000 tests	
07105C/096	Hop Mosaic Virus complete kit / 96	96 tests	
07105C/480	Hop Mosaic Virus complete kit / 480	480 tests	
07105C/960	Hop Mosaic Virus complete kit / 960	960 tests	
07105PC	Positive Control Hop Mosaic Virus	1 vial (10 tests)	
07105NC	Negative Control Hop Mosaic Virus	1 vial (10 tests)	
07026	Hydrangea Ringspot Potexvirus. HRSV	Size	
	Host range: Hydrangea.	DAS ELISA	
	Transmission: grafting, mechanical inoculation, naturally without vector.		
07026S/100	Hydrangea Ringspot Virus set / 100	100 tests	
07026S/300	Hydrangea Ringspot Virus set / 300	300 tests	
07026S/500	Hydrangea Ringspot Virus set / 500	500 tests	
07026C/096	Hydrangea Ringspot Virus complete kit / 96	96 tests	
07026C/480	Hydrangea Ringspot Virus complete kit / 480	480 tests	
07026PC	Positive Control Hydrangea Ringspot Virus	1 vial (10 tests)	
07026NC	Negative Control Hydrangea Ringspot Virus	1 vial (10 tests)	

## Product Section

07505	Impatiens Necrotic Spot Tospovirus. INSV	Size	
	Tospovirus serogroup III. Host range: many plant species.	DAS ELISA	
	Transmission by mechanical inoculation, thrips.		
07505S/100	Impatiens Necrotic Spot Virus set / 100	100 tests	
07505S/300	Impatiens Necrotic Spot Virus set / 300	300 tests	
07505S/500	Impatiens Necrotic Spot Virus set / 500	500 tests	
07505S/1000	Impatiens Necrotic Spot Virus set / 1000	1000 tests	
07505C/096	Impatiens Necrotic Spot Virus complete kit / 96	96 tests	
07505C/480	Impatiens Necrotic Spot Virus complete kit / 480	480 tests	
07505C/960	Impatiens Necrotic Spot Virus complete kit / 960	960 tests	
07505PC	Positive Control Impatiens Necrotic Spot Virus	1 vial (10 tests)	
07505NC	Negative Control Impatiens Necrotic Spot Virus	1 vial (10 tests)	
07508	Iris Yellow Spot Tospovirus. IYSV	Size	
	Tospovirus former serogroup V	DAS ELISA	
	Host range: garlic, Hippeastrum, Iris, leek, Lisianthus.		
	Transmission by mechanical inoculation, thrips.		
07508S/100	Iris Yellow Spot Virus set / 100	100 tests	
07508S/300	Iris Yellow Spot Virus set / 300	300 tests	
07508S/500	Iris Yellow Spot Virus set / 500	500 tests	
07508S/1000	Iris Yellow Spot Virus set / 1000	1000 tests	
07508C/096	Iris Yellow Spot Virus complete kit / 96	96 tests	
07508C/480	Iris Yellow Spot Virus complete kit / 480	480 tests	
07508C/960	Iris Yellow Spot Virus complete kit / 960	960 tests	
07508PC	Positive Control Iris Yellow Spot Virus	1 vial (10 tests)	
07508NC	Negative Control Iris Yellow Spot Virus	1 vial (10 tests)	
07107	Johnson Grass Mosaic Potyvirus. JGMV	Size	
	(Syn.: Maize Dwarf Virus 0). Host range: Avena sativa, Sorghum, Zea mays.	DAS ELISA	
	Transmission by aphids, mechanical inoculation.		
07107S/100	Johnson Grass Mosaic Virus set / 100	100 tests	
07107S/300	Johnson Grass Mosaic Virus set / 300	300 tests	
07107S/500	Johnson Grass Mosaic Virus set / 500	500 tests	
07107S/1000	Johnson Grass Mosaic Virus set / 1000	1000 tests	
07107C/096	Johnson Grass Mosaic Virus complete kit / 96	96 tests	
07107C/480	Johnson Grass Mosaic Virus complete kit / 480	480 tests	
07107C/960	Johnson Grass Mosaic Virus complete kit / 960	960 tests	
07107PC	Positive Control Johnson Grass Mosaic Virus	1 vial (10 tests)	
07107NC	Negative Control Johnson Grass Mosaic Virus	1 vial (10 tests)	
07027	Lettuce Mosaic Potyvirus. LMV	Size	
	(Syn.: Lactuca Virus 1)	DAS ELISA	
	Host range: endive, lettuce, ornamentals, peas, spinach.		
	Transmission by aphids, mechanical inoculation, seed.		
07027S/100	Lettuce Mosaic Virus set / 100	100 tests	
07027S/300	Lettuce Mosaic Virus set / 300	300 tests	
07027S/500	Lettuce Mosaic Virus set / 500	500 tests	
07027C/096	Lettuce Mosaic Virus complete kit / 96	96 tests	
07027C/480	Lettuce Mosaic Virus complete kit / 480	480 tests	
07027PC	Positive Control Lettuce Mosaic Virus	1 vial (10 tests)	
07027NC	Negative Control Lettuce Mosaic Virus	1 vial (10 tests)	

## Product Section

07183	Lettuce Necrotic Stunt Tombusvirus. LNSV	Size	
	Host range: lettuce, tomato. Transmission: mech. inoculation, soil-borne?	DAS ELISA	
07183S/100	Lettuce Necrotic Stunt Virus set / 100	100 tests	
07183S/300	Lettuce Necrotic Stunt Virus set / 300	300 tests	
07183S/500	Lettuce Necrotic Stunt Virus set / 500	500 tests	
07183S/1000	Lettuce Necrotic Stunt Virus set / 1000	1000 tests	
07183C/096	Lettuce Necrotic Stunt Virus complete kit / 96	96 tests	
07183C/480	Lettuce Necrotic Stunt Virus complete kit / 480	480 tests	
07183C/960	Lettuce Necrotic Stunt Virus complete kit / 960	960 tests	
07183PC	Positive Control Lettuce Necrotic Stunt Virus	1 vial (10 tests)	
07183NC	Negative Control Lettuce Necrotic Stunt Virus	1 vial (10 tests)	
07059	Maize Dwarf Mosaic Potyvirus. MDMV Syn.: MDMV-A, -D, -E, -F)	Size	
	Host range: Panicum spp., Saccharum spp., Zea maize.		
	Transmission by aphids, mechanical inoculation, seed.		
07059S/100	Maize Dwarf Virus set / 100	100 tests	
07059S/300	Maize Dwarf Virus set / 300	300 tests	
07059S/500	Maize Dwarf Virus set / 500	500 tests	
07059S/1000	Maize Dwarf Virus set / 1000	1000 tests	
07059C/096	Maize Dwarf Virus complete kit / 96	96 tests	
07059C/480	Maize Dwarf Virus complete kit / 480	480 tests	
07059C/960	Maize Dwarf Virus complete kit / 960	960 tests	
07059PC	Positive Control Maize Dwarf Virus	1 vial (10 tests)	
07059NC	Negative Control Maize Dwarf Virus	1 vial (10 tests)	
07066	Maize Chlorotic Mottle Machlovirus. MCMV	Size	
	Host range: Johnson grass, Saccharum spp., Zea maize etc.	DAS ELISA	
	Synergistic action with MDMVA and B (Corn Lethal Necrosis) .		
	Transmission: chrysomelid beetles, thrips, mechan. inoculation, seed.		
07066S/100	Maize Chlorotic Mottle Virus set / 100	100 tests	
07066S/300	Maize Chlorotic Mottle Virus set / 300	300 tests	
07066S/500	Maize Chlorotic Mottle Virus set / 500	500 tests	
07066C/096	Maize Chlorotic Mottle Virus complete kit / 96	96 tests	
07066C/480	Maize Chlorotic Mottle Virus complete kit / 480	480 tests	
07066PC	Positive Control Maize Chlorotic Mottle Virus	1 vial (10 tests)	
07066NC	Negative Control Maize Chlorotic Mottle Virus	1 vial (10 tests)	
07097	Melon Necrotic Spot Carmovirus. MNSV	Size	
	Host range: cucurbitaceae. Transmission: fungus, contact, mechan., seed.	DAS ELISA	
07097S/100	Melon Necrotic Spot Virus set / 100	100 tests	
07097S/300	Melon Necrotic Spot Virus set / 300	300 tests	
07097S/500	Melon Necrotic Spot Virus set / 500	500 tests	
07097S/1000	Melon Necrotic Spot Virus set / 1000	1000 tests	
07097S/5000	Melon Necrotic Spot Virus set / 5000	5000 tests	
07097C/096	Melon Necrotic Spot Virus complete kit / 96	96 tests	
07097C/480	Melon Necrotic Spot Virus complete kit / 480	480 tests	
07097C/960	Melon Necrotic Spot Virus complete kit / 960	960 tests	
07097C/4800	Melon Necrotic Spot Virus complete kit / 4800	4800 tests	
07097PC	Positive Control Melon Necrotic Spot Virus	1 vial (10 tests)	
07097NC	Negative Control Melon Necrotic Spot Virus	1 vial (10 tests)	



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07149	Mirafiori Lettuce Big-Vein Ophiovirus. MILBVV	Size	
	Host range: lettuce. Transmission: mechanical inoculation, Olpidium brassicae.	DAS ELISA	
07149S/100	Mirafiori Lettuce Big-Vein Virus set / 100	100 tests	
07149S/300	Mirafiori Lettuce Big-Vein Virus set / 300	300 tests	
07149S/500	Mirafiori Lettuce Big-Vein Virus set / 500	500 tests	
07149C/096	Mirafiori Lettuce Big-Vein Virus complete kit / 96	96 tests	
07149C/480	Mirafiori Lettuce Big-Vein Virus complete kit / 480	480 tests	
07149PC	Positive Control Mirafiori Lettuce Big-Vein Virus	1 vial (10 tests)	
07149NC	Negative Control Mirafiori Lettuce Big-Vein Virus	1 vial (10 tests)	
07156	Moroccan Watermelon Mosaic Potyvirus. MWMV	Size	
	Host range: Cucurbitaceae. Transmission: aphids, mechanical inoculation.	DAS ELISA	
07156S/100	Moroccan Watermelon Mosaic Virus set / 100	100 tests	
07156S/300	Moroccan Watermelon Mosaic Virus set / 300	300 tests	
07156S/500	Moroccan Watermelon Mosaic Virus set / 500	500 tests	
07156C/096	Moroccan Watermelon Mosaic Virus complete kit / 96	96 tests	
07156C/480	Moroccan Watermelon Mosaic Virus complete kit / 480	480 tests	
07156PC	Positive Control Moroccan Watermelon Mosaic Virus	1 vial (10 tests)	
07156NC	Negative Control Moroccan Watermelon Mosaic Virus	1 vial (10 tests)	
07098	Nemesia Ring Necrosis Tymovirus. NeRNV	Size	
	Host range: many ornaments. Transmission: beetles, mechanically, veg. propagation.	DAS ELISA	
07098S/100	Nemesia Ring Necrosis Virus set / 100	100 tests	
07098S/300	Nemesia Ring Necrosis Virus set / 300	300 tests	
07098S/500	Nemesia Ring Necrosis Virus set / 500	500 tests	
07098S/096	Nemesia Ring Necrosis Virus complete kit / 96	96 tests	
07098S/480	Nemesia Ring Necrosis Virus complete kit / 480	480 tests	
07098PC	Positive Control Nemesia Ring Necrosis Virus	1 vial (10 tests)	
07098NC	Negative Control Nemesia Ring Necrosis Virus	1 vial (10 tests)	
07028	Odontoglossum Ringspot Tobamovirus. ORSV	Size	
	Host range: orchids. Transmission by mechanical inoculation, not by a vector.	DAS ELISA	
07028S/100	Odontoglossum Ringspot Virus set / 100	100 tests	
07028S/300	Odontoglossum Ringspot Virus set / 300	300 tests	
07028S/500	Odontoglossum Ringspot Virus set / 500	500 tests	
07028C/096	Odontoglossum Ringspot Virus complete kit / 96	96 tests	
07028C/480	Odontoglossum Ringspot Virus complete kit / 480	480 tests	
07028PC	Positive Control Odontoglossum Ringspot Virus	1 vial (10 tests)	
07028NC	Negative Control Odontoglossum Ringspot Virus	1 vial (10 tests)	
07151	Olive Latent Necrovirus-1. OLV-1	Size	
	Host range: Olive. Transmission: mechanical inoculation. Soil-transmitted not by a vector.	DAS ELISA	
07151S/100	Olive Latent Virus-1 set / 100	100 tests	
07151S/300	Olive Latent Virus-1 set / 300	300 tests	
07151S/500	Olive Latent Virus-1 set / 500	500 tests	
07151S/1000	Olive Latent Virus-1 set / 1000	1000 tests	
07151C/096	Olive Latent Virus-1 complete kit / 96	96 tests	
07151C/480	Olive Latent Virus-1 complete kit / 480	480 tests	
07151C/960	Olive Latent Virus-1 complete kit / 960	960 tests	
07151PC	Positive Control Olive Latent Virus-1	1 vial (10 tests)	
07151NC	Negative Control Olive Latent Virus-1	1 vial (10 tests)	

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07111	Onion Yellow Dwarf Potyvirus. OYDV	Size	
	Host range: Allium species. Transmission by aphids, mechanical inoculation.	DAS ELISA	
07111S/100	Onion Yellow Dwarf Virus set / 100	100 tests	
07111S/300	Onion Yellow Dwarf Virus set / 300	300 tests	
07111S/500	Onion Yellow Dwarf Virus set / 500	500 tests	
07111C/096	Onion Yellow Dwarf Virus complete kit / 96	96 tests	
07111C/480	Onion Yellow Dwarf Virus complete kit / 480	480 tests	
07111PC	Positive Control Onion Yellow Dwarf Virus	1 vial (10 tests)	
07111NC	Negative Control Onion Yellow Dwarf Virus	1 vial (10 tests)	
07060	Papaya Ringspot Potyvirus. PRSV (Watermelon Mosaic Virus I)	Size	
	Host range: Cucurbitaceae, Papaya. Transmission by aphids, mechanical inoculation.	DAS ELISA	
07060S/100	Papaya Ringspot Virus set / 100	100 tests	
07060S/300	Papaya Ringspot Virus set / 300	300 tests	
07060S/500	Papaya Ringspot Virus set / 500	500 tests	
07060S/1000	Papaya Ringspot Virus set / 1000	1000 tests	
07060C/096	Papaya Ringspot Virus complete kit / 96	96 tests	
07060C/480	Papaya Ringspot Virus complete kit / 480	480 tests	
07060C/960	Papaya Ringspot Virus complete kit / 960	960 tests	
07060PC	Positive Control Papaya Ringspot Virus	1 vial (10 tests)	
07060NC	Negative Control Papaya Ringspot Virus	1 vial (10 tests)	
07065	Paprika Mild Mottle Tobamovirus. PaMMV	Size	
	Host range: Capsicum species. Transmission by mechan. Inocul. and possibly by seeds.	DAS ELISA	
07065S/100	Paprika Mild Mottle Virus set / 100	100 tests	
07065S/300	Paprika Mild Mottle Virus set / 300	300 tests	
07065S/500	Paprika Mild Mottle Virus set / 500	500 tests	
07065S/1000	Paprika Mild Mottle Virus set / 1000	1000 tests	
07065C/096	Paprika Mild Mottle Virus complete kit / 96	96 tests	
07065C/480	Paprika Mild Mottle Virus complete kit / 480	480 tests	
07065C/960	Paprika Mild Mottle Virus complete kit / 960	960 tests	
07065PC	Positive Control Paprika Mild Mottle Virus	1 vial (10 tests)	
07065NC	Negative Control Paprika Mild Mottle Virus	1 vial (10 tests)	
07029	Pea Enation Mosaic Enamovirus. PEMV	Size	
	Enamovirus. Host range: Leguminosae. Transmission by aphids and mech. inoculation.	DAS ELISA	
07029S/100	Pea Enation Mosaic Virus set / 100	100 tests	
07029S/300	Pea Enation Mosaic Virus set / 300	300 tests	
07029S/500	Pea Enation Mosaic Virus set / 500	500 tests	
07029C/096	Pea Enation Mosaic Virus complete kit / 96	96 tests	
07029C/480	Pea Enation Mosaic Virus complete kit / 480	480 tests	
07029PC	Positive Control Pea Enation Mosaic Virus	1 vial (10 tests)	
07029NC	Negative Control Pea Enation Mosaic Virus	1 vial (10 tests)	
07112	Pea Necrotic Yellow Dwarf Nanovirus. PNYDV	Size	
	Host range: Lentils, faba beans, peas. Transmission by aphids.	DAS ELISA	
07112S/100	Pea Necrotic Yellow Dwarf Virus set / 100	100 tests	
07112S/300	Pea Necrotic Yellow Dwarf Virus set / 300	300 tests	
07112S/500	Pea Necrotic Yellow Dwarf Virus / 500	500 tests	
	continued on next page.		

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07112C/096	Pea Necrotic Yellow Dwarf Virus complete kit / 96	96 tests	
07112C/480	Pea Necrotic Yellow Dwarf Virus complete kit / 480	480 tests	
07112PC	Positive Control Pea Necrotic Yellow Dwarf Virus	1 vial (10 tests)	
07112NC	Negative Control Pea Necrotic Yellow Dwarf Virus	1 vial (10 tests)	
<b>07030</b>	<b>Pea Seed-borne Mosaic Potyvirus. PSbMV</b>	<b>Size</b>	
	Host range: Leguminosae. Transmission by aphids, seed.	DAS ELISA	
07030S/100	Pea Seed-borne Mosaic Virus set / 100	100 tests	
07030S/300	Pea Seed-borne Mosaic Virus set / 300	300 tests	
07030S/500	Pea Seed-borne Mosaic Virus set / 500	96 tests	
07030C/096	Pea Seed-borne Mosaic Virus complete kit / 96	480 tests	
07030C/480	Pea Seed-borne Mosaic Virus complete kit / 480	480 tests	
07030PC	Positive Control Pea Seed-borne Mosaic Virus	1 vial (10 tests)	
07030NC	Negative Control Pea Seed-borne Mosaic Virus	1 vial (10 tests)	
<b>07073</b>	<b>Pelargonium Flower Break Carmovirus. PFBV</b>	<b>Size</b>	
	Host range: Pelargonium species. Transmission by contact, grafting.	DAS ELISA	
07073S/100	Pelargonium Flower Break Virus set / 100	100 tests	
07073S/300	Pelargonium Flower Break Virus set / 300	300 tests	
07073S/500	Pelargonium Flower Break Virus set / 500	500 tests	
07073C/096	Pelargonium Flower Break Virus complete kit / 96	96 tests	
07073C/480	Pelargonium Flower Break Virus complete kit / 480	480 tests	
07073PC	Positive Control Pelargonium Flower Break Virus	1 vial (10 tests)	
07073NC	Negative Control Pelargonium Flower Break Virus	1 vial (10 tests)	
<b>07083</b>	<b>Pelargonium Leafcurl Tombusvirus. PLCV</b>	<b>Size</b>	
	Host range: Pelargonium species. Transmission by contact, grafting, mechan.	DAS ELISA	
07083S/100	Pelargonium Leafcurl Virus set / 100	100 tests	
07083S/300	Pelargonium Leafcurl Virus set / 300	300 tests	
07083S/500	Pelargonium Leafcurl Virus set / 500	500 tests	
07083C/096	Pelargonium Leafcurl Virus complete kit / 96	96 tests	
07083C/480	Pelargonium Leafcurl Virus complete kit / 480	480 tests	
07083PC	Positive Control Pelargonium Leafcurl Virus	1 vial (10 tests)	
07083NC	Negative Control Pelargonium Leafcurl Virus	1 vial (10 tests)	
<b>07094</b>	<b>Pelargonium Line Pattern Carmovirus. PLPV</b>	<b>Size</b>	
	Host range: Pelargonium spp.	DAS ELISA	
	Transmission: contacts, grafting, mechanical inoculation.		
07094S/100	Pelargonium Line Pattern Virus set / 100	100 tests	
07094S/300	Pelargonium Line Pattern Virus set / 300	300 tests	
07094S/500	Pelargonium Line Pattern Virus set / 500	500 tests	
07094C/096	Pelargonium Line Pattern Virus complete kit / 96	96 tests	
07094C/480	Pelargonium Line Pattern Virus complete kit / 480	480 tests	
07094PC	Positive Control Pelargonium Line Pattern Virus	1 vial (10 tests)	
07094NC	Negative Control Pelargonium Line Pattern Virus	1 vial (10 tests)	
	<b>Pepino Latent Carlavirus see Potato Carlavirus S</b>		

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07128	Pepino Mosaic Potexvirus. PepMV	Size	
	Host range: pepino, tomato. Transmission: contact, mechanical inoculation, seed.	DAS ELISA	
07128S/100	Pepino Mosaic Virus set / 100	100 tests	
07128S/300	Pepino Mosaic Virus set / 300	300 tests	
07128S/500	Pepino Mosaic Virus set / 500	500 tests	
07128S/1000	Pepino Mosaic Virus set / 1000	1000 tests	
07128S/5000	Pepino Mosaic Virus set / 5000	5000 tests	
07128C/096	Pepino Mosaic Virus complete kit / 96	96 tests	
07128C/480	Pepino Mosaic Virus complete kit / 480	480 tests	
07128C/960	Pepino Mosaic Virus complete kit / 960	960 tests	
07128C/4800	Pepino Mosaic Virus complete kit / 4800	4800 tests	
07128PC	Positive Control Pepino Mosaic Virus inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07128NC	Negative Control Pepino Mosaic Virus	1 vial (10 tests)	
07096	Pepper Mild Mottle Tobamovirus. PMMoV	Size	
	Host range: Capsicum species. Transmission: contact, grafting, mech. inocul., seed.	DAS ELISA	
07096S/100	Pepper Mild Mottle Virus set / 100	100 tests	
07096S/300	Pepper Mild Mottle Virus set / 300	300 tests	
07096S/500	Pepper Mild Mottle Virus set / 500	500 tests	
07096S/1000	Pepper Mild Mottle Virus set / 1000	1000 tests	
07096S/5000	Pepper Mild Mottle Virus set / 5000	5000 tests	
07096C/096	Pepper Mild Mottle Virus complete kit / 96	96 tests	
07096C/480	Pepper Mild Mottle Virus complete kit / 480	480 tests	
07096C/960	Pepper Mild Mottle Virus complete kit / 960	960 tests	
07096C/4800	Pepper Mild Mottle Virus complete kit / 4800	4800 tests	
07096PC	Positive Control Pepper Mild Mottle Virus	1 vial (10 tests)	
07096NC	Negative Control Pepper Mild Mottle Virus	1 vial (10 tests)	
07050	Pepper Mottle Potyvirus (Chilli Mottle Potyvirus). PepMoV	Size	
	Host range: pepper. Transmission: contact, grafting, mechanical inoculation, seed.	DAS ELISA	
07050S/100	Pepper Mottle Virus set / 100	100 tests	
07050S/300	Pepper Mottle Virus set / 300	300 tests	
07050S/500	Pepper Mottle Virus set / 500	500 tests	
07050C/096	Pepper Mottle Virus complete kit / 96	96 tests	
07050C/480	Pepper Mottle Virus complete kit / 480	480 tests	
07050PC	Positive Control Pepper Mottle Virus	1 vial (10 tests)	
07050NC	Negative Control Pepper Mottle Virus	1 vial (10 tests)	
07159	Pepper Veinal Mottle Potyvirus. PVMV	Size	
	Host range: Solanaceae. Transmission by aphids, grafting and mech. inoculation.	DAS ELISA	
07159S/100	Pepper Veinal Mottle Virus set / 100	100 tests	
07159S/300	Pepper Veinal Mottle Virus set / 300	300 tests	
07159S/500	Pepper Veinal Mottle Virus set / 500	500 tests	
07159S/1000	Pepper Veinal Mottle Virus set / 1000	1000 tests	
07159C/096	Pepper Veinal Mottle Virus complete kit / 96	96 tests	
07159C/480	Pepper Veinal Mottle Virus complete kit / 480	480 tests	
07159C/960	Pepper Veinal Mottle Virus complete kit / 960	960 tests	
07159PC	Positive Control Pepper Veinal Mottle Virus	1 vial (10 tests)	
07159NC	Negative Control Pepper Veinal Mottle Virus	1 vial (10 tests)	

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07061	Petunia Asteroid Mosaic Tombusvirus. PeAMV	Size	
	Host range: hop, petunia, Prunus species, etc.	DAS ELISA	
	Transmission by contaminated soil, grafting and mechanical inoculation.		
07061S/100	Petunia Asteroid Mosaic Virus set	100 tests	
07061S/300	Petunia Asteroid Mosaic Virus set / 300	300 tests	
07061S/500	Petunia Asteroid Mosaic Virus set / 500	500 tests	
07061S/1000	Petunia Asteroid Mosaic Virus set / 1000	1000 tests	
07061C/096	Petunia Asteroid Mosaic Virus complete kit / 96	96 tests	
07061C/480	Petunia Asteroid Mosaic Virus complete kit / 480	480 tests	
07061C/960	Petunia Asteroid Mosaic Virus complete kit / 960	960 tests	
07061PC	Positive Control Petunia Asteroid Mosaic Virus	1 vial (10 tests)	
07061NC	Negative Control Petunia Asteroid Mosaic Virus	1 vial (10 tests)	
07186	Plum Pox Potyvirus universal	Size	
	5IVIA-B MAB provided by PlantPrint Diagnostics		
	Host range: Prunus species. Transmission by aphids, mechanical inoculation.	poly/mono	
07186S/100	Plum Pox Virus set / 100	100 tests	
07186S/300	Plum Pox Virus set / 300	300 tests	
07186S/500	Plum Pox Virus set / 500	500 tests	
07186S/1000	Plum Pox Virus set / 1000	1000 tests	
07186C/096	Plum Pox Virus complete kit / 96	96 tests	
07186C/480	Plum Pox Virus complete kit / 480	480 tests	
07186C/960	Plum Pox Virus complete kit / 960	960 tests	
07186PC	Positive Control Plum Pox Virus inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07186NC	Negative Control Plum Pox Virus	1 vial (10 tests)	
07109	Poinsettia Mosaic Tymovirus. PnMV	Size	
	Marafivirus. Host range: Euphorbia species.	DAS ELISA	
	Transmission by grafting and mechanical inoculation.		
07109S/100	Poinsettia Mosaic Virus set / 100	100 tests	
07109S/300	Poinsettia Mosaic Virus set / 300	300 tests	
07109S/500	Poinsettia Mosaic Virus set / 500	500 tests	
07109C/096	Poinsettia Mosaic Virus complete kit / 96	96 tests	
07109C/480	Poinsettia Mosaic Virus complete kit / 480	480 tests	
07109PC	Positive Control Poinsettia Mosaic Virus	1 vial (10 tests)	
07109NC	Negative Control Poinsettia Mosaic Virus	1 vial (10 tests)	
07032	Potato A Potyvirus. PVA	Size	
	Host range: Solanaceae. Transmission by aphids and mechanical inoculation.	DAS ELISA	
07032S/100	Potato Virus A set / 100	100 tests	
07032S/300	Potato Virus A set / 300	300 tests	
07032S/500	Potato Virus A set / 500	500 tests	
07032S/1000	Potato Virus A set / 1000	1000 tests	
07032S/5000	Potato Virus A set / 5000	5000 tests	
07032C/096	Potato Virus A complete kit / 96	96 tests	
07032C/480	Potato Virus A complete kit / 480	480 tests	
07032C/960	Potato Virus A complete kit / 960	960 tests	
07032C/4800	Potato Virus A complete kit / 4800	4800 tests	
07032PC	Positive Control Potato Virus A	1 vial (10 tests)	
07032NC	Negative Control Potato Virus A	1 vial (10 tests)	

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07165	Potato Aucuba Mosaic Potexvirus. PAMV	Size	
	Host range: potato. Transmission: aphids, mechanical inoculation.	DAS ELISA	
07165S/100	Potato Aucuba Mosaic Virus set / 100	100 tests	
07165S/300	Potato Aucuba Mosaic Virus set / 300	300 tests	
07165S/500	Potato Aucuba Mosaic Virus set / 500	500 tests	
07165S/1000	Potato Aucuba Mosaic Virus set / 1000	1000 tests	
07165C/96	Potato Aucuba Mosaic Virus complete kit / 96	96 tests	
07165C/480	Potato Aucuba Mosaic Virus complete kit / 480	480 tests	
07165C/960	Potato Aucuba Mosaic Virus complete kit / 960	960 tests	
07165PC	Positive Control Potato Aucuba Mosaic Virus	1 vial (10 tests)	
07165NC	Negative Control Potato Aucuba Mosaic Virus	1 vial (10 tests)	
07145	Potato Black Ringspot Nepovirus. PBRSV	Size	
	(Sy.: Potato Calico strain of Tobacco Ringspot Virus)	DAS ELISA	
	Host range: Potatoes, other solanaceous plants susceptible.		
	Transmission by grafting and mechanical inoculation.		
07145S/100	Potato Black Ringspot Virus set / 100	100 tests	
07145S/300	Potato Black Ringspot Virus set / 300	300 tests	
07145S/500	Potato Black Ringspot Virus set / 500	500 tests	
07145S/1000	Potato Black Ringspot Virus set / 1000	1000 tests	
07145C/96	Potato Black Ringspot Virus complete kit / 96	96 tests	
07145C/480	Potato Black Ringspot Virus complete kit / 480	480 tests	
07145C/960	Potato Black Ringspot Virus complete kit / 960	960 tests	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07145NC	Negative Control Potato Black Ringspot Virus	1 vial (10 tests)	
07031	Potato Leafroll Polerovirus. PLRV	Size	
	Host range: potatoes, solanaceous species.	DAS ELISA	
	Transmission: aphids, grafting.		
07031S/100	Potato Leafroll Virus set / 100	100 tests	
07031S/300	Potato Leafroll Virus set / 300	300 tests	
07031S/500	Potato Leafroll Virus set / 500	500 tests	
07031S/1000	Potato Leafroll Virus set / 1000	1000 tests	
07031S/5000	Potato Leafroll Virus set / 5000	5000 tests	
07031C/96	Potato Leafroll Virus complete kit / 96	96 tests	
07031C/480	Potato Leafroll Virus complete kit / 480	480 tests	
07031C/960	Potato Leafroll Virus complete kit / 960	960 tests	
07031C/4800	Potato Leafroll Virus complete kit / 4800	4800 tests	
07031PC	Positive Control Potato Leafroll Virus	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07031NC	Negative Control Potato Leafroll Virus	1 vial (10 tests)	
07033	Potato M Carlavirus. PVM	Size	
	Host range: potatoes and other solanaceous species.	DAS ELISA	
	Transmission by aphids, grafting and mechanical inoculation.		
07033S/100	Potato Virus M set / 100	100 tests	
07033S/300	Potato Virus M set / 300	300 tests	
07033S/500	Potato Virus M set / 500	500 tests	
07033S/1000	Potato Virus M set / 1000	1000 tests	
07033S/5000	Potato Virus M set / 5000	5000 tests	
	continued on next page.		

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07033C/096	Potato Virus M complete kit / 96	96 tests	
07033C/480	Potato Virus M complete kit / 480	480 tests	
07033C/960	Potato Virus M complete kit / 960	960 tests	
07033C/4800	Potato Virus M complete kit / 4800	4800 tests	
07033PC	Positive Control Potato Virus M	1 vial (10 tests)	
07033NC	Negative Control Potato Virus M	1 vial (10 tests)	
<b>07034</b>	<b>Potato S Carlavirus. PVS (Pepino Latent Virus)</b>	<b>Size</b>	
	Host range: potatoes. Transmission: aphids, mechanical inoculation.	DAS ELISA	
07034S/100	Potato Virus S set / 100	100 tests	
07034S/300	Potato Virus S set / 300	300 tests	
07034S/500	Potato Virus S set / 500	500 tests	
07034S/1000	Potato Virus S set / 1000	1000 tests	
07034S/5000	Potato Virus S set / 5000	5000 tests	
07034C/096	Potato Virus S complete kit / 96	96 tests	
07034C/480	Potato Virus S complete kit / 480	480 tests	
07034C/960	Potato Virus S complete kit / 960	960 tests	
07034C/4800	Potato Virus S complete kit / 4800	4800 tests	
07034PC	Positive Control Potato Virus S	1 vial (10 tests)	
07034NC	Negative Control Potato Virus S	1 vial (10 tests)	
<b>07037</b>	<b>Potato X Potexvirus. PVX</b>	<b>Size</b>	
	Host range: potato.	DAS ELISA	
	Transmission: contacts between plants, mechanical inoculation.		
07037S/100	Potato Virus X set / 100	100 tests	
07037S/300	Potato Virus X set / 300	300 tests	
07037S/500	Potato Virus X set / 500	500 tests	
07037S/1000	Potato Virus X set / 1000	1000 tests	
07037S/5000	Potato Virus X set / 5000	5000 tests	
07037C/096	Potato Virus X complete kit / 96	96 tests	
07037C/480	Potato Virus X complete kit / 480	480 tests	
07037C/960	Potato Virus X complete kit / 960	960 tests	
07037C/4800	Potato Virus X complete kit / 4800	4800 tests	
07037PC	Positive Control Potato Virus X	1 vial (10 tests)	
07037NC	Negative Control Potato Virus X	1 vial (10 tests)	
<b>07038</b>	<b>Potato Y Potyvirus. PVY</b>	<b>Size</b>	
	Host range: solanaceous plants. Transmission: aphids, grafting, mech. Inoculation	DAS ELISA	
07038S/100	Potato Virus Y set / 100	100 tests	
07038S/300	Potato Virus Y set / 300	300 tests	
07038S/500	Potato Virus Y set / 500	500 tests	
07038S/1000	Potato Virus Y set / 1000	1000 tests	
07038S/5000	Potato Virus Y set / 5000	5000 tests	
07038C/096	Potato Virus Y complete kit / 96	96 tests	
07038C/480	Potato Virus Y complete kit / 480	480 tests	
07038C/960	Potato Virus Y complete kit / 960	960 tests	
07038C/4800	Potato Virus Y complete kit / 4800	4800 tests	
07038PC	Positive Control Potato Virus Y	1 vial (10 tests)	
07038NC	Negative Control Potato Virus Y	1 vial (10 tests)	

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07051	Prune Dwarf Ilarvirus. PDV	Size	
	Host range: Prunus species.	DAS ELISA	
	Transmission by grafting, mechanical inoculation, pollen-to-seed, seed.		
07051S/100	Prune Dwarf Virus set / 100	100 tests	
07051S/300	Prune Dwarf Virus set / 300	300 tests	
07051S/500	Prune Dwarf Virus set / 500	500 tests	
07051S/1000	Prune Dwarf Virus set / 1000	1000 tests	
07051C/96	Prune Dwarf Virus complete kit / 96	96 tests	
07051C/480	Prune Dwarf Virus complete kit / 480	480 tests	
07051C/960	Prune Dwarf Virus complete kit / 960	960 tests	
07051PC	Positive Control Prune Dwarf Virus	1 vial (10 tests)	
07051NC	Negative Control Prune Dwarf Virus	1 vial (10 tests)	
07052	Prunus Necrotic Ringspot Ilarvirus. PNRV	Size	
	Host range: cucumber, hop, Prunus species.	DAS ELISA	
	Transmission by grafting, mechanical inoculation, pollen-to-seed, seed.		
07052S/100	Prunus Necrotic Ringspot Virus set / 100	100 tests	
07052S/300	Prunus Necrotic Ringspot Virus set / 300	300 tests	
07052S/500	Prunus Necrotic Ringspot Virus set / 500	500 tests	
07052S/1000	Prunus Necrotic Ringspot Virus set / 1000	1000 tests	
07052C/96	Prunus Necrotic Ringspot Virus complete kit / 96	96 tests	
07052C/480	Prunus Necrotic Ringspot Virus complete kit / 480	480 tests	
07052C/960	Prunus Necrotic Ringspot Virus complete kit / 960	960 tests	
07052PC	Positive Control Prunus Necrotic Ringspot Virus	1 vial (10 tests)	
07052NC	Negative Control Prunus Necrotic Ringspot Virus	1 vial (10 tests)	
07087	Radish Mosaic Comovirus. RaMV	Size	
	Host range: Brassica species. Transmission: beetle, grafting, mechanical inocul.	DAS ELISA	
07087S/100	Radish Mosaic Virus set / 100	100 tests	
07087S/300	Radish Mosaic Virus set / 300	300 tests	
07087S/500	Radish Mosaic Virus set / 500	500 tests	
07087S/1000	Radish Mosaic Virus set / 1000	1000 tests	
07087C/96	Radish Mosaic Virus complete kit / 96	96 tests	
07087C/480	Radish Mosaic Virus complete kit / 480	480 tests	
070857/960	Radish Mosaic Virus complete kit / 960	960 tests	
07087PC	Positive Control Radish Mosaic Virus	1 vial (10 tests)	
07087NC	Negative Control Radish Mosaic Virus	1 vial (10 tests)	
07080	Raspberry Bushy Dwarf Idaeovirus. RBDV	Size	
	Host range: Rubus species.	DAS ELISA	
	Transmission by grafting, mechanical inoculation and seed.		
07080S/100	Raspberry Bushy Dwarf Virus set / 100	100 tests	
07080S/300	Raspberry Bushy Dwarf Virus set / 300	300 tests	
07080S/500	Raspberry Bushy Dwarf Virus set / 500	500 tests	
07080S/1000	Raspberry Bushy Dwarf Virus set / 1000	1000 tests	
07080C/96	Raspberry Bushy Dwarf Virus complete kit / 96	96 tests	
07080C/480	Raspberry Bushy Dwarf Virus complete kit / 480	480 tests	
07080C/960	Raspberry Bushy Dwarf Virus complete kit / 960	960 tests	
07080PC	Positive Control Raspberry Bushy Dwarf Virus	1 vial (10 tests)	
07080NC	Negative Control Raspberry Bushy Dwarf Virus	1 vial (10 tests)	



## Product Section

07141	Raspberry Ringspot Nepovirus Broad Range RpRSV	Size	
	Artificial mixture of antisera (ch, g, r)	DAS ELISA	
	Host range: grapevine, Rubus species, strawberry.		
	Transmission by mechan. inoculation, nematodes, pollen-to-seed, seed.		
07141S/100	Raspberry Ringspot Virus set / 100	100 tests	
07141S/300	Raspberry Ringspot Virus set / 300	300 tests	
07141S/500	Raspberry Ringspot Virus set / 500	500 tests	
07141S/1000	Raspberry Ringspot Virus set / 1000	1000 tests	
07141C/096	Raspberry Ringspot Virus complete kit / 96	96 tests	
07141C/480	Raspberry Ringspot Virus complete kit / 480	480 tests	
07141C/960	Raspberry Ringspot Virus complete kit / 960	960 tests	
07141PC	Positive Control Raspberry Ringspot Virus	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07141NC	Negative Control Raspberry Ringspot Virus	1 vial (10 tests)	
07142	Raspberry Ringspot Nepovirus (cherry isolate). RpRSV ch	Size	
	Pfeffinger Disease	DAS ELISA	
07142S/100	Raspberry Ringspot Virus ch set / 100	100 tests	
07142S/300	Raspberry Ringspot Virus ch set / 300	300 tests	
07142S/500	Raspberry Ringspot Virus ch set / 500	500 tests	
07142C/096	Raspberry Ringspot Virus ch complete kit / 96	96 tests	
07142C/480	Raspberry Ringspot Virus ch complete kit / 480	480 tests	
07142PC	Positive Control Raspberry Ringspot Virus ch	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07142NC	Negative Control Raspberry Ringspot Virus ch	1 vial (10 tests)	
07144	Raspberry Ringspot Nepovirus (grapevine isolate). RpRSV g	Size	
		DAS ELISA	
07144S/100	Raspberry Ringspot Virus g set / 100	100 tests	
07144S/300	Raspberry Ringspot Virus g set / 300	300 tests	
07144S/500	Raspberry Ringspot Virus g set / 500	500 tests	
07144C/096	Raspberry Ringspot Virus g complete kit / 96	96 tests	
07144C/480	Raspberry Ringspot Virus g complete kit / 480	480 tests	
07144PC	Positive Control Raspberry Ringspot Virus g	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07144NC	Negative Control Raspberry Ringspot Virus g	1 vial (10 tests)	
07143	Raspberry Ringspot Nepovirus (raspberry isolate). RpRSV r	Size	
		DAS ELISA	
07143S/100	Raspberry Ringspot Virus r set / 100	100 tests	
07143S/300	Raspberry Ringspot Virus r set / 300	300 tests	
07143S/500	Raspberry Ringspot Virus r set / 500	500 tests	
07143C/096	Raspberry Ringspot Virus r complete kit / 96	96 tests	
07143C/480	Raspberry Ringspot Virus r complete kit / 480	480 tests	
07143PC	Positive Control Raspberry Ringspot Virus r	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07143NC	Negative Control Raspberry Ringspot Virus r	1 vial (10 tests)	

## Product Section

07040	Red Clover Mottle Comovirus. RCMV	Size	
	Host range: Trifolium pratense.	DAS ELISA	
	Transmission by beetles and mechanical inoculation.		
07040S/100	Red Clover Mottle Virus set / 100	100 tests	
07040S/300	Red Clover Mottle Virus set / 300	300 tests	
07040S/500	Red Clover Mottle Virus set / 500	500 tests	
07040S/1000	Red Clover Mottle Virus set / 1000	1000 tests	
07040C/096	Red Clover Mottle Virus complete kit / 96	96 tests	
07040C/480	Red Clover Mottle Virus complete kit / 480	480 tests	
07040C/960	Red Clover Mottle Virus complete kit / 960	960 tests	
07040PC	Positive Control Red Clover Mottle Virus	1 vial (10 tests)	
07040NC	Negative Control Red Clover Mottle Virus	1 vial (10 tests)	
	<b>Ribgrass Mosaic Tobamovirus</b> see <b>Tobamoscreen II</b> page		
07133	Rice Yellow Mottle Sobemovirus. RYMV	Size	
	Host range: rice.	DAS ELISA	
	Transmission by beetles and mechanical inoculation.		
07133S/100	Rice Yellow Mottle Virus set / 100	100 tests	
07133S/300	Rice Yellow Mottle Virus set / 300	300 tests	
07133S/500	Rice Yellow Mottle Virus set / 500	500 tests	
07133C/096	Rice Yellow Mottle Virus complete kit / 96	96 tests	
07133C/480	Rice Yellow Mottle Virus complete kit / 480	480 tests	
07133PC	Positive Control Rice Yellow Mottle Virus	1 vial (10 tests)	
07133NC	Negative Control Rice Yellow Mottle Virus	1 vial (10 tests)	
07173	Soil-borne Cereal Mosaic Furovirus. SbCMV polyclonal/ monoclonal	Size	
	Host range: barley, wheat, rye.	TAS ELISA	
	Transmission by a soil-borne fungus.		
07173S/100	Soil-borne Cereal Mosaic Virus set / 100	100 tests	
07173S/300	Soil-borne Cereal Mosaic Virus set / 300	300 tests	
07173S/500	Soil-borne Cereal Mosaic Virus set / 500	500 tests	
07173C/096	Soil-borne Cereal Mosaic Virus complete kit / 96	96 tests	
07173C/480	Soil-borne Cereal Mosaic Virus complete kit / 480	480 tests	
07212PC	Method Control for SbCMV unspecific	1 vial (10 tests)	
07173NC	Soil-borne Cereal Mosaic Virus Negative Control	1 vial (10 tests)	
07174	Soil-borne Wheat Mosaic Furovirus. SbWMV monoclonal / monoclonal	Size	
	Host range: barley, wheat, rye.	DAS ELISA	
	Transmission by a soil-borne fungus.		
07174S/100	Soil-borne Wheat Mosaic Virus set / 100	100 tests	
07174S/300	Soil-borne Wheat Mosaic Virus set / 300	300 tests	
07174S/500	Soil-borne Wheat Mosaic Virus set / 500	500 tests	
07174C/096	Soil-borne Wheat Mosaic Virus complete kit / 96	96 tests	
07174C/480	Soil-borne Wheat Mosaic Virus complete kit / 480	480 tests	
07174PC	Positive Control Soil-borne Wheat Mosaic Virus	1 vial (10 tests)	
07174NC	Negative Control Soil-borne Wheat Mosaic Virus	1 vial (10 tests)	

## Product Section

07106	Sorghum Mosaic Potyvirus. SrMV	Size	
	Host range Sorghum, Sugar Cane.	DAS ELISA	
	Transmission by aphids.		
07106S/100	Sorghum Mosaic Virus set / 100	100 tests	
07106S/300	Sorghum Mosaic Virus set / 300	300 tests	
07106S/500	Sorghum Mosaic Virus set / 500	500 tests	
07106S/1000	Sorghum Mosaic Virus set / 1000	1000 tests	
07106C/096	Sorghum Mosaic Virus complete kit / 96	96 tests	
07106C/480	Sorghum Mosaic Virus complete kit / 480	480 tests	
07106C/960	Sorghum Mosaic Virus complete kit / 960	960 tests	
07106PC	Positive Control Sorghum Mosaic Virus	1 vial (10 tests)	
07106NC	Negative Control Sorghum Mosaic Virus	1 vial (10 tests)	
07179	Southern Bean Mosaic Sobemovirus. SBMV	Size	
	Host range: bean. Transmission: Coleoptera, grafting, mechanical inoculation.	DAS ELISA	
07179S/100	Southern Bean Mosaic Virus set / 100	100 tests	
07179S/300	Southern Bean Mosaic Virus set / 300	300 tests	
07179S/500	Southern Bean Mosaic Virus set / 500	500 tests	
07179C/096	Southern Bean Mosaic Virus complete kit / 96	96 tests	
07179C/480	Southern Bean Mosaic Virus complete kit / 480	480 tests	
07179PC	Positive Control Southern Bean Mosaic Virus	1 vial (10 tests)	
07179NC	Negative Control Southern Bean Mosaic Virus	1 vial (10 tests)	
07074	Soybean Mosaic Potyvirus. SMV	Size	
	Host range: soybeans. Transmission: aphids, mech.inoculation, pollen-to seed, seed.	DAS ELISA	
07074S/100	Soybean Mosaic Virus set / 100	100 tests	
07074S/300	Soybean Mosaic Virus set / 300	300 tests	
07074S/500	Soybean Mosaic Virus set / 500	500 tests	
07074C/096	Soybean Mosaic Virus complete kit / 96	96 tests	
07074C/480	Soybean Mosaic Virus complete kit / 480	480 tests	
07074PC	Positive Control Soybean Mosaic Virus	1 vial (10 tests)	
07074NC	Negative Control Soybean Mosaic Virus	1 vial (10 tests)	
07089	Squash Mosaic Comovirus. SqMV	Size	
	Host range: Cucurbitaceae. Transmission by Beetles, mechanical inoculation.	DAS ELISA	
07089S/100	Squash Mosaic Virus set / 100	100 tests	
07089S/300	Squash Mosaic Virus set / 300	300 tests	
07089S/500	Squash Mosaic Virus set / 500	500 tests	
07089C/096	Squash Mosaic Virus complete kit /096	96 tests	
07089C/480	Squash Mosaic Virus complete kit /480	480 tests	
07089PC	Positive Control Squash Mosaic Virus	1 vial (10 tests)	
07089NC	Negative Control Squash Mosaic Virus	1 vial (10 tests)	
07115	Strawberry Latent Ringspot Nepovirus (chestnut isolate). SLRV	Size	
	Host range: many species. Transmission by mech. inoculation, nematodes, seeds.	DAS ELISA	
07115S/100	Strawberry Latent Virus set / 100	100 tests	
07115S/300	Strawberry Latent Virus set / 300	300 tests	
07115S/500	Strawberry Latent Virus set / 500	500 tests	
07115C/096	Strawberry Latent Virus complete kit / 96	96 tests	
07115C/480	Strawberry Latent Virus complete kit / 480	480 tests	
	continued on next page.		

## Product Section

07115PC	Positive Control Strawberry Latent Virus	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07115NC	Negative Control Strawberry Latent Virus	1 vial (10 tests)	
	<b>Streptocarpus Flowerbreak Tobamovirus</b> see <b>Tobamoscreen II</b> page		
<b>07088</b>	<b>Sugarcane Mosaic Potyvirus (MDMV B). SCMV</b>	<b>Size</b>	
	Host range: maize, Sorghum spp., Sugarcane.	DAS ELISA	
	Transmission by aphids, grafting, mechanical inoculation, seed.		
07088S/100	Sugarcane Mosaic Virus set / 100	100 tests	
07088S/300	Sugarcane Mosaic Virus set / 300	300 tests	
07088S/500	Sugarcane Mosaic Virus set / 500	500 tests	
07088S/1000	Sugarcane Mosaic Virus set / 1000	1000 tests	
07088C/096	Sugarcane Mosaic Virus complete kit / 96	96 tests	
07088C/480	Sugarcane Mosaic Virus complete kit / 480	480 tests	
07088C/960	Sugarcane Mosaic Virus complete kit / 960	960 tests	
07088PC	Positive Control Sugarcane Mosaic Virus	1 vial (10 tests)	
07088NC	Negative Control Sugarcane Mosaic Virus	1 vial (10 tests)	
<b>07176</b>	<b>Tobacco Mild Green Mosaic Tobamovirus (TMV strain U2). TMGMV</b>	<b>Size</b>	
	Host range: pepper, petunia, tomato.	DAS ELISA	
	Transmission by grafting and mechanical inoculation without vector.		
07176S/ 100	Tobacco Mild Green Mosaic Virus set / 100	100 tests	
07176S/ 300	Tobacco Mild Green Mosaic Virus set / 300	300 tests	
07176S/500	Tobacco Mild Green Mosaic Virus set / 500	500 tests	
07176S/1000	Tobacco Mild Green Mosaic Virus set / 1000	1000 tests	
07176S/5000	Tobacco Mild Green Mosaic Virus set / 5000	5000 tests	
07176C/096	Tobacco Mild Green Mosaic Virus complete kit / 96	96 tests	
07176C/480	Tobacco Mild Green Mosaic Virus complete kit / 480	480 tests	
07176C/960	Tobacco Mild Green Mosaic Virus complete kit / 960	960 tests	
07176C/4800	Tobacco Mild Green Mosaic Virus complete kit / 4800	4800 tests	
07176PC	Positive Control Tobacco Mild Green Mosaic Virus	1 vial (10 tests)	
07176NC	Negative Control Tobacco Mild Green Mosaic Virus	1 vial (10 tests)	
<b>07042</b>	<b>Tobacco Mosaic Tobamovirus (TMV strain U1). TMV</b>	<b>Size</b>	
	Host range: many species.	DAS ELISA	
	Transmission by contact, grafting, mechanical inoculation, seed, no vector.		
07042S/100	Tobacco Mosaic Virus set / 100	100 tests	
07042S/300	Tobacco Mosaic Virus set / 300	300 tests	
07042S/500	Tobacco Mosaic Virus set / 500	500 tests	
07042S/1000	Tobacco Mosaic Virus set / 1000	1000 tests	
07042S/5000	Tobacco Mosaic Virus set / 5000	5000 tests	
07042C/096	Tobacco Mosaic Virus complete kit / 96	96 tests	
07042C/480	Tobacco Mosaic Virus complete kit / 480	480 tests	
07042C/960	Tobacco Mosaic Virus complete kit / 960	960 tests	
07042C/4800	Tobacco Mosaic Virus complete kit / 4800	4800 tests	
07042PC	Positive Control Tobacco Mosaic Virus	1 vial (10 tests)	
07042NC	Negative Control Tobacco Mosaic Virus	1 vial (10 tests)	



Specificity of LOEWE® Tobamovirus Antisera

ELISA Cat. No.	07184	07188	07042	07047	07096	07176	07175	07065	07022	07167
Pathogen	Tobamo-screen I	Tobamo-screen II	TMV	ToMV	PMMoV	TMGMV	ToBRFV	PaMMV	CGMMV	ZGMMV
TMV	+++	-	+++	+	-	-	+	-	-	-
ToMV	+++	-	-	+++	-	(+)	(+)	-	-	-
PMMoV	+++	-	-	-	+++	+	-	-	-	-
BePMV	++	-	-	-	-	-	-	-	-	-
TMGMV	+	-	-	-	(+)	+++	-	-	-	-
ToMMV	+	-	-	++	-	-	(+)	-	-	-
ToBRFV	+	-	-	(+)	-	-	+++	-	-	-
PaMMV	-	-	-	-	-	(+)	-	+++	-	-
RMV	+	+++	-	-	-	-	-	-	-	-
TVCV	+	+++	+	(+)	-	-	-	-	-	-
YoMV	-	+++	-	-	-	-	-	-	-	-
SFBV	-	+++	-	-	-	-	-	-	-	-
CGMMV	-	-	-	-	-	-	-	-	+++	-
ZGMMV	-	-	-	-	-	-	-	-	-	+++
KGMMV	-	-	-	-	-	-	-	-	-	-
OdRSV	++	-	-	-	-	-	-	-	-	-

Specificity of LOEWE® Tospovirus Antisera

ELISA Cat. No.	07510	07501	07504	07505	07508
Pathogen	Tosposcreen	TSWV	TCSV	INSV	IYSV
TSWV	+++	+++	(+)	-	-
TCSV	+++	+	+++	-	-
GRSV	+++	+	+	-	-
CSNV	++	-	(+)	-	-
INSV	+++	-	-	+++	-
CACV	(+)	-	-	-	-
WSMoV	(+)	-	-	-	-
IYSV	-	-	-	-	+++



OD*	< 0.1	0.2 - 0.3	0.3 - 1.0	1.0 - 2.5	2.5 - 3.0
Coding	no reaction	slight cross reaction	medium cross reaction	cross reaction	main reaction

\*determined after one hour of substrate incubation

## Product Section

07113	Tobacco Rattle Tobravirus M. TRV M	Size	
		DAS ELISA	
07113S/100	Tobacco Rattle Virus M set / 100	100 tests	
07113S/300	Tobacco Rattle Virus M set / 300	300 tests	
07113S/500	Tobacco Rattle Virus M set / 500	500 tests	
07113C/096	Tobacco Rattle Virus M complete kit / 96	96 tests	
07113C/480	Tobacco Rattle Virus M complete kit / 480	480 tests	
07113PC	Positive Control Tobacco Rattle Virus M	1 vial (10 tests)	
07113NC	Negative Control Tobacco Rattle Virus M	1 vial (10 tests)	
07168	Tobacco Ringspot Nepovirus. TRSV	Size	
	Host range: cucumber, soybean, tomato.	DAS ELISA	
	Transmission by mechanical inoculation, nematodes, other vectors, seed.		
07168S/100	Tobacco Ringspot Virus set / 100	100 tests	
07168S/300	Tobacco Ringspot Virus set / 300	300 tests	
07168S/500	Tobacco Ringspot Virus set / 500	500 tests	
07168S/1000	Tobacco Ringspot Virus set / 1000	1000 tests	
07168C/096	Tobacco Ringspot Virus complete kit / 96	96 tests	
07168C/480	Tobacco Ringspot Virus complete kit / 480	480 tests	
07168C/960	Tobacco Ringspot Virus complete kit /960	960 tests	
07168PC	Positive Control TRSV inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07168NC	Negative Control Tobacco Ringspot Virus	1 vial (10 tests)	
07184	Tobamoscreen I detecting PMMoV, TMV and ToMV	Size	
	Host range: many species.	DAS ELISA	
	Transmission: contact, mechanical inoculation, seed, pollinators.		
07184S/100	Tobamoscreen I set / 100	100 tests	
07184S/300	Tobamoscreen I set / 300	300 tests	
07184S/500	Tobamoscreen I set / 500	500 tests	
07184S/1000	Tobamoscreen I set / 1000	1000 tests	
07184S/5000	Tobamoscreen I set / 5000	5000 tests	
07184C/096	Tobamoscreen I complete kit / 96	96 tests	
07184C/480	Tobamoscreen I complete kit / 480	480 tests	
07184C/960	Tobamoscreen I complete kit / 960	960 tests	
07184C/4800	Tobamoscreen I complete kit / 4800	4800 tests	
07096PC	Positive Control Pepper Mild Mottle Virus	1 vial (10 tests)	
07042PC	Positive Control Tobacco Mosaic Virus	1 vial (10 tests)	
07047PC	Positive Control Tomato Mosaic Virus	1 vial (10 tests)	
07184PC	Positive Control Tobamoscreen I	1 vial (10 tests)	
07184NC	Negative Control Tobamoscreen I	1 vial (10 tests)	
07188	Tobamoscreen II detect. Ribgrass Mosaic V., Streptocarpus Flowerbreak V., Turnip Vein Clearing V., and Youcai Mosaic V.	Size	
		DAS ELISA	
07188S/100	Tobamoscreen II set / 100	100 tests	
07188S/300	Tobamoscreen II set /300	300 tests	
07188S/500	Tobamoscreen II set / 500	500 tests	
07188S/1000	Tobamoscreen II set / 1000	1000 tests	
07188S/5000	Tobamoscreen II set / 5000	5000 tests	
	continued on next page.		





## Product Section

07067	Tomato Bushy Stunt Tombusvirus. TBSV	Size	
	Host range: solanaceous species, tulips etc.	DAS ELISA	
	Transmission by grafting, mechanical inoculation and seed.		
07067S/100	Tomato Bushy Stunt Virus set / 100	100 tests	
07067S/300	Tomato Bushy Stunt Virus set / 300	300 tests	
07067S/500	Tomato Bushy Stunt Virus set / 500	500 tests	
07067S/1000	Tomato Bushy Stunt Virus set / 1000	1000 tests	
07067S/5000	Tomato Bushy Stunt Virus set / 5000	5000 tests	
07067C/096	Tomato Bushy Stunt Virus complete kit / 96	96 tests	
07067C/480	Tomato Bushy Stunt Virus complete kit / 480	480 tests	
07067C/960	Tomato Bushy Stunt Virus complete kit / 960	960 tests	
07067C/4800	Tomato Bushy Stunt Virus complete kit / 4800	4800 tests	
07067PC	Positive Control Tomato Bushy Stunt Virus	1 vial (10 tests)	
07067NC	Negative Control Tomato Bushy Stunt Virus	1 vial (10 tests)	
07101	Tomato Chlorosis Crinivirus	Size	
	Host range: Solanaceae and several members of other families. Transmission white-flies.	DAS ELISA	
07101S/100	Tomato Chlorosis Virus set / 100	100 tests	
07101S/300	Tomato Chlorosis Virus set / 300	300 tests	
07101S/500	Tomato Chlorosis Virus set / 500	500 tests	
07101C/096	Tomato Chlorosis Virus complete kit / 96	96 tests	
07101C/480	Tomato Chlorosis Virus complete kit / 480	480 tests	
07101PC	Positive Control Tomato Chlorosis Virus	1 vial (10 tests)	
07101NC	Negative Control Tomato Chlorosis Virus	1 vial (10 tests)	
07503	Tomato Chlorotic Spot Tospovirus. TCSV	Size	
	TSWV serogroup (former serogroup II) Host range: lettuce, tomato.	DAS ELISA	
	Transmission by mechanical inoculation and thrips.		
07503S/100	Tomato Chlorotic Spot Virus set / 100	100 tests	
07503S/300	Tomato Chlorotic Spot Virus set / 300	300 tests	
07503S/500	Tomato Chlorotic Spot Virus set / 500	500 tests	
07503S/1000	Tomato Chlorotic Spot Virus set / 1000	1000 tests	
07503C/096	Tomato Chlorotic Spot Virus complete kit / 96	96 tests	
07503C/480	Tomato Chlorotic Spot Virus complete kit / 480	480 tests	
07503C/960	Tomato Chlorotic Spot Virus complete kit / 960	960 tests	
07503PC	Positive Control Tomato Chlorotic Spot Virus	1 vial (10 tests)	
07503NC	Negative Control Tomato Chlorotic Spot Virus	1 vial (10 tests)	
07047	Tomato Mosaic Tobamovirus (Dahlemense strain). ToMV	Size	
	Host range: tomato. Transmission by contact, mechanical inoculation, seed.		
07047S/100	Tomato Mosaic Virus set / 100	100 tests	
07047S/300	Tomato Mosaic Virus set / 300	300 tests	
07047S/500	Tomato Mosaic Virus set / 500	500 tests	
07047S/1000	Tomato Mosaic Virus set / 1000	1000 tests	
07047S/5000	Tomato Mosaic Virus set / 5000	5000 tests	
07047C/096	Tomato Mosaic Virus complete kit / 96	96 tests	
07047C/480	Tomato Mosaic Virus complete kit / 480	480 tests	
07047C/960	Tomato Mosaic Virus complete kit / 960	960 tests	
07047C/4800	Tomato Mosaic Virus complete kit / 4800	4800 tests	
07047PC	Positive Control Tomato Mosaic Virus	1 vial (10 tests)	
07047NC	Negative Control Tomato Mosaic Virus	1 vial (10 tests)	

## Product Section

07084	Tomato Ringspot Nepovirus (pelargonium isolate). ToRSV	Size	
	Host range: grapevine, pelargonium, pome fruits etc.	DAS ELISA	
	Transmission by grafting, mechanical inoculation, Xiphinema, seed.		
07084S/100	Tomato Ringspot Virus set / 100	100 tests	
07084S/300	Tomato Ringspot Virus set / 300	300 tests	
07084S/500	Tomato Ringspot Virus set / 500	500 tests	
07084C/096	Tomato Ringspot Virus complete kit / 96	96 tests	
07084C/480	Tomato Ringspot Virus complete kit / 480	480 tests	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07084NC	Negative Control Tomato Ringspot Virus	1 vial (10 tests)	
07501	Tomato Spotted Wilt Tospovirus. TSWV (Former serogroup I)	Size	
	Host range: many species. Transmission: grafting, mech. inoculation, thrips.	DAS ELISA	
07501S/100	Tomato Spotted Wilt Virus set / 100	100 tests	
07501S/300	Tomato Spotted Wilt Virus set / 300	300 tests	
07501S/500	Tomato Spotted Wilt Virus set / 500	500 tests	
07501S/1000	Tomato Spotted Wilt Virus set / 1000	1000 tests	
07501C/096	Tomato Spotted Wilt Virus complete kit / 96	96 tests	
07501C/480	Tomato Spotted Wilt Virus complete kit / 480	480 tests	
07501C/960	Tomato Spotted Wilt Virus complete kit / 960	960 tests	
07501PC	Positive Control Tomato Spotted Wilt Virus inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07501NC	Negative Control Tomato Spotted Wilt Virus	1 vial (10 tests)	
07177	Tomato Yellow Leafcurl Bigeminivirus polyclonal/monoclonal. TYLCV	Size	
	<b>Reaction with ACMV -, BGMV -, TYLCV - and TYLCSV isolates</b>	TAS ELISA	
	Host range: tomato. Transmission by Bemisia tabacchi.		
07177S/ 100	Tomato Yellow Leafcurl Virus set	100 tests	
07177S/ 300	Tomato Yellow Leafcurl Virus set / 300	300 tests	
07177S/500	Tomato Yellow Leafcurl Virus set / 500	500 tests	
07177C/096	Tomato Yellow Leafcurl Virus complete kit / 96	96 tests	
07177C/480	Tomato Yellow Leafcurl Virus complete kit / 480	480 tests	
07212PC	ELISA Method Control for TYLCV unspecific	1 vial (10 tests)	
07177NC	Negative Control Tomato Yellow Leafcurl Virus	1 vial (10 tests)	
07510	Tosposcreen detects TWSV, INSV, TCSV, GRSV, and CSNV	Size	
		DAS ELISA	
07510/100	Tosposcreen set / 100	100 tests	
07510/300	Tosposcreen set / 300	300 tests	
07510S/500	Tosposcreen set / 500	500 tests	
07510S/1000	Tosposcreen set 1000	1000 tests	
07510C/096	Tosposcreen complete kit / 96	96 tests	
07510C/480	Tosposcreen complete kit / 480	480 tests	
07510C/960	Tosposcreen complete kit / 960	960 tests	
07510PC	Positive Control Tosposcreen	1 vial (10 tests)	
07501PC	Positive Control TSWV inactivated	1 vial (10 tests)	
07505PC	Positive Control INSV	1 vial (10 tests)	
07503PC	Positive Control TCSV	1 vial (10 tests)	
07504PC	Positive Control GRSV	1 vial (10 tests)	
07510NC	Negative Control Tosposcreen	1 vial (10 tests)	

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07049	Turnip Mosaic Potyvirus (Cabbage Black Ring Virus). TuMV	Size	
	Host range: Brassicaceae, Solanaceae, others.	DAS ELISA	
	Transmission by aphids and mechanical inoculation.		
07049S/100	Turnip Mosaic Virus set / 100	100 tests	
07049S/300	Turnip Mosaic Virus set / 300	300 tests	
07049S/500	Turnip Mosaic Virus set / 500	500 tests	
07049C/96	Turnip Mosaic Virus complete kit / 96	96 tests	
07049C/480	Turnip Mosaic Virus complete kit / 480	480 tests	
07049PC	Positive Control Turnip Mosaic Virus	1 vial (10 tests)	
07049NC	Negative Control Turnip Mosaic Virus	1 vial (10 tests)	
	<b>Turnip Vein Clearing Tobamovirus see Tobamoscreen II page</b>		
07091	Turnip Yellow Mosaic Tymovirus. TYMV	Size	
	Host range: Brassicacea.	DAS ELISA	
	Transmission by flea beetles, grafting, mechanical inoculation, seed.		
07091S/100	Turnip Yellow Mosaic Virus set / 100	100 tests	
07091S/300	Turnip Yellow Mosaic Virus set / 300	300 tests	
07091S/500	Turnip Yellow Mosaic Virus set / 500	500 tests	
07091C/96	Turnip Yellow Mosaic Virus complete kit / 96	96 tests	
07091C/480	Turnip Yellow Mosaic Virus complete kit / 480	480 tests	
07091PC	Positive Control Turnip Yellow Mosaic Virus	1 vial (10 tests)	
07091NC	Negative Control Turnip Yellow Mosaic Virus	1 vial (10 tests)	
07009	Turnip Yellows Polerovirus. TuYV	Size	
	Beet Mild Yellowing Virus. Host range: beta spp., others., Transmission by aphids.	DAS ELISA	
07009S/100	Turnip Yellows Virus set / 100	100 tests	
07009S/300	Turnip Yellows Virus set / 300	300 tests	
07009S/500	Turnip Yellows Virus set / 500	500 tests	
07009C/96	Turnip Yellows Virus complete kit / 96	96 tests	
07009C/480	Turnip Yellows Virus complete kit / 480	480 tests	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07009NC	Negative Control Turnip Yellows Virus	1 vial (10 tests)	
07095	Watermelon Mosaic Potyvirus II. WMV II	Size	
	Host range: Cucurbitaceae. Transmission by aphids and mechanical inoculation.	DAS ELISA	
07095S/100	Watermelon Mosaic Virus II set / 100	100 tests	
07095S/300	Watermelon Mosaic Virus II set / 300	300 tests	
07095S/500	Watermelon Mosaic Virus II set / 500	500 tests	
07095C/96	Watermelon Mosaic Virus II complete kit / 96	96 tests	
07095C/480	Watermelon Mosaic Virus II complete kit / 480	480 tests	
07095PC	Positive Control Watermelon Mosaic Virus II	1 vial (10 tests)	
07095NC	Negative Control Watermelon Mosaic Virus II	1 vial (10 tests)	
07082	Wheat Dwarf Monogeminivirus. WDV	Size	
	Host range: barley, wheat. Transmission: cicada (Psammotettix alienus).	DAS ELISA	
07082S/100	Wheat Dwarf Virus set / 100	100 tests	
07082S/300	Wheat Dwarf Virus set / 300	300 tests	
07082S/500	Wheat Dwarf Virus set / 500	500 tests	
07082S/1000	Wheat Dwarf Virus set / 1000	1000 tests	
	continued on next page.		

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07082C/096	Wheat Dwarf Virus complete kit / 96	96 tests	
07082C/480	Wheat Dwarf Virus complete kit / 480	480 tests	
07082C/960	Wheat Dwarf Virus complete kit / 960	960 tests	
07082PC	Positive Control Wheat Dwarf Virus	1 vial (10 tests)	
07082NC	Negative Control Wheat Dwarf Virus	1 vial (10 tests)	
<b>07171</b>	<b>Wheat Spindle Streak Mosaic Bymovirus. WSSMV</b>	<b>Size</b>	
	Polyclonal/monoclonal. Host range: rye, wheat.	TAS ELISA	
	Transmission by Polymyxa graminis and by mechanical inoculation.		
07171S/100	Wheat Spindle Streak Mosaic Virus set / 100	100 tests	
07171S/300	Wheat Spindle Streak Mosaic Virus set / 300	300 tests	
07171S/500	Wheat Spindle Streak Mosaic Virus set / 500	500 tests	
07171C/096	Wheat Spindle Streak Mosaic Virus complete kit / 96	96 tests	
07171C/480	Wheat Spindle Streak Mosaic Virus complete kit / 480	480 tests	
07212	ELISA Method Control for WSSMV unpecific	1 vial (10 tests)	
07171NC	Negative Control Wheat Spindle Streak Mosaic Virus	1 vial (10 tests)	
<b>07048</b>	<b>Wheat Streak Mosaic Rymovirus. WSMV</b>	<b>Size</b>	
	Host range: maize, wheat, others. Transmission by mites, mech. inocul., seed at low rate.	DAS ELISA	
07048S/100	Wheat Streak Mosaic Virus set / 100	100 tests	
07048S/300	Wheat Streak Mosaic Virus set / 300	300 tests	
07048S/500	Wheat Streak Mosaic Virus set / 500	500 tests	
07048C/096	Wheat Streak Mosaic Virus complete kit / 96	96 tests	
07048C/480	Wheat Streak Mosaic Virus complete kit / 480	480 tests	
07048PC	Positive Control Wheat Streak Mosaic Virus	1 vial (10 tests)	
07048NC	Negative Control Wheat Streak Mosaic Virus	1 vial (10 tests)	
	<b>Youcai Mosaic Tobamovirus see Tobamoscreen II page</b>		
<b>07167</b>	<b>Zucchini Green Mottle Mosaic Tobamovirus. ZGMMV</b>	<b>Size</b>	
	Host range: Cucurbitaceae. Transmission by direct contact very likely.	DAS ELISA	
07167S/100	Zucchini Green Mottle Mosaic Virus set / 100	100 tests	
07167S/300	Zucchini Green Mottle Mosaic Virus set / 300	300 tests	
07167S/500	Zucchini Green Mottle Mosaic Virus set / 500	500 tests	
07167S/1000	Zucchini Green Mottle Mosaic Virus set / 1000	1000 tests	
07167C/096	Zucchini Green Mottle Mosaic Virus complete kit / 96	96 tests	
07167C/480	Zucchini Green Mottle Mosaic Virus complete kit / 480	480 tests	
07167C/960	Zucchini Green Mottle Mosaic Virus complete kit / 960	960 tests	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07167NC	Negative Control Zucchini Green Mottle Mosaic Virus	1 vial (10 tests)	
<b>07104</b>	<b>Zucchini Yellow Fleck Potyvirus. ZYFV</b>	<b>Size</b>	
	Potyvirus. Host range: Cucurbitaceae. Transmission by aphids, contact, mech. inocul.	DAS ELISA	
07104S/100	Zucchini Yellow Fleck Virus set / 100	100 tests	
07104S/300	Zucchini Yellow Fleck Virus set / 300	300 tests	
07104S/500	Zucchini Yellow Fleck Virus set / 500	500 tests	
07104C/096	Zucchini Yellow Fleck Virus complete kit / 96	96 tests	
07104C/480	Zucchini Yellow Fleck Virus complete kit / 480	480 tests	
07104PC	Positive Control Zucchini Yellow Fleck Virus	1 vial (10 tests)	
07104NC	Negative Control Zucchini Yellow Fleck Virus	1 vial (10 tests)	





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07069	Erwinia amylovora	Size	
	Feuerbrand. Fire blight. Host range: Rosaceae	DAS ELISA	
07069S/100	Erwinia amylovora set / 100	100 tests	
07069S/300	Erwinia amylovora set / 300	300 tests	
07069S/500	Erwinia amylovora set / 500	500 tests	
07069S/1000	Erwinia amylovora set / 1000	1000 tests	
07069C/96	Erwinia amylovora complete kit / 96	96 tests	
07069C/480	Erwinia amylovora complete kit / 480	480 tests	
07069C/960	Erwinia amylovora complete kit / 960	960 tests	
07069PC	Positive Control Erwinia amylovora inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07069NC	Negative Control Erwinia amylovora	1 vial (10 tests)	
07129	Pantoea stewartii subsp. stewartii	Size	
	Stewarts disease. Host range: mainly important for maize.	DAS ELISA	
07129S/100	Pantoea stewartii subsp. stewartii set / 100	100 tests	
07129S/300	Pantoea stewartii subsp. stewartii set / 300	300 tests	
07129S/500	Pantoea stewartii subsp. stewartii set / 500	500 tests	
07129S/1000	Pantoea stewartii subsp. stewartii set / 1000	1000 tests	
07129C/96	Pantoea stewartii subsp. stewartii complete kit / 96	96 tests	
07129C/480	Pantoea stewartii subsp. stewartii complete kit / 480	480 tests	
07129C/960	Pantoea stewartii subsp. stewartii complete kit / 960	960 tests	
07129PC	Positive Control Pantoea stewartii subsp. stewartii inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07129NC	Negative Control Pantoea stewartii subsp. stewartii	1 vial (10 tests)	
07068	Pectobacterium atrosepticum potato isolate	Size	
	Blackleg disease, soft rot disease. Host range: many potatoes.	DAS ELISA	
07068S/100	Pectobacterium atrosepticum set / 100	100 tests	
07068S/300	Pectobacterium atrosepticum set / 300	300 tests	
07068S/500	Pectobacterium atrosepticum set / 500	500 tests	
07068S/1000	Pectobacterium atrosepticum set / 1000	1000 tests	
07068C/96	Pectobacterium atrosepticum complete kit / 96	96 tests	
07068C/480	Pectobacterium atrosepticum complete kit / 480	480 tests	
07068C/960	Pectobacterium atrosepticum complete kit / 960	960 tests	
07068PC	Positive Control Pectobacterium atrosepticum inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07068NC	Negative Control Pectobacterium atrosepticum	1 vial (10 tests)	
07070	Pseudomonas savastanoi pv. phaseolicola	Size	
	Halo blight of beans. Host range: beans.	DAS ELISA	
07070S/100	Pseudomonas savastanoi pv. phaseolicola set / 100	100 tests	
07070S/300	Pseudomonas savastanoi pv. phaseolicola set / 300	300 tests	
07070S/500	Pseudomonas savastanoi pv. phaseolicola set / 500	500 tests	
07070S/1000	Pseudomonas savastanoi pv. phaseolicola set / 1000	1000 tests	
07070C/96	Pseudomonas savastanoi pv. phaseolicola complete kit / 96	96 tests	
07070C/480	Pseudomonas savastanoi pv. phaseolicola complete kit / 480	480 tests	
07070C/960	Pseudomonas savastanoi pv. phaseolicola complete kit / 960	960 tests	
07070PC	Positive Control Pseudomonas savastanoi pv. phaseolicola inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07070NC	Negative Control Pseudomonas savastanoi pv. phaseolicola	1 vial (10 tests)	

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07147	<b>Pseudomonas syringae pv. lachrymans</b>	Size	
	Angular leaf disease, Eckige Blattfleckenkrankheit. Host range: cucurbits.	DAS ELISA	
07147S/100	Pseudomonas syringae pv. lachrymans set / 100	100 tests	
07147S/300	Pseudomonas syringae pv. lachrymans set / 300	300 tests	
07147S/500	Pseudomonas syringae pv. lachrymans set / 500	500 tests	
07147S/1000	Pseudomonas syringae pv. lachrymans set / 1000	1000 tests	
07147C/096	Pseudomonas syringae pv. lachrymans complete kit / 96	96 tests	
07147C/480	Pseudomonas syringae pv. lachrymans complete kit / 480	480 tests	
07147C/960	Pseudomonas syringae pv. lachrymans complete kit / 960	960 tests	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07147NC	Negative Control Pseudomonas syringae pv. lachrymans	1 vial (10 tests)	
07071	<b>Pseudomonas syringae pv. pisi</b>	Size	
	Bacterial blight of peas. Host range: peas.	DAS ELISA	
07071S/100	Pseudomonas syringae pv. pisi set / 100	100 tests	
07071S/300	Pseudomonas syringae pv. pisi set / 300	300 tests	
07071S/500	Pseudomonas syringae pv. pisi set / 500	500 tests	
07071S/1000	Pseudomonas syringae pv. pisi set / 1000	1000 tests	
07071C/096	Pseudomonas syringae pv. pisi complete kit / 96	96 tests	
07071C/480	Pseudomonas syringae pv. pisi complete kit / 480	480 tests	
07071C/960	Pseudomonas syringae pv. pisi complete kit / 960	960 tests	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07071PC	Positive Control Pseudomonas syringae pv. pisi inactivated	1 vial (10 tests)	
07071NC	Negative Control Pseudomonas syringae pv. pisi	1 vial (10 tests)	
07139	<b>Pseudomonas syringae pv. tomato</b>	Size	
	Bacterial speck disease of tomato. Host range: tomatoes.	DAS ELISA	
07139S/100	Pseudomonas syringae pv. tomato set / 100	100 tests	
07139S/300	Pseudomonas syringae pv. tomato set / 300	300 tests	
07139S/500	Pseudomonas syringae pv. tomato set / 500	500 tests	
07139S/1000	Pseudomonas syringae pv. tomato set / 1000	1000 tests	
07139C/096	Pseudomonas syringae pv. tomato complete kit / 96	96 tests	
07139C/480	Pseudomonas syringae pv. tomato complete kit / 480	480 tests	
07139C/960	Pseudomonas syringae pv. tomato complete kit / 960	960 tests	
07139PC	Positive Control Pseudomonas syringae pv. tomato inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07139NC	Negative Control Pseudomonas syringae pv. tomato	1 vial (10 tests)	
07056	<b>Ralstonia solanacearum</b>	Size	
	Pseudomonas solanacearum. Braunfäule. Brown rot (potato), Southern Bacterial Wilt (tomato). Moko Disease (banana). Wide host range.	DAS ELISA	
07056S/100	Ralstonia solanacearum set / 100	100 tests	
07056S/300	Ralstonia solanacearum set / 300	300 tests	
07056S/500	Ralstonia solanacearum set / 500	500 tests	
07056S/1000	Ralstonia solanacearum set / 1000	1000 tests	
07056C/096	Ralstonia solanacearum complete kit / 96	96 tests	
07056C/480	Ralstonia solanacearum complete kit / 480	480 tests	
07056C/960	Ralstonia solanacearum complete kit / 960	960 tests	
07208PC	ELISA Method Control RAG unspecific	1 vial (10 tests)	
07056NC	Negative Control Ralstonia solanacearum	1 vial (10 tests)	



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07170	Rhodococcus fascians	Size	
	Corynebacterium fascians. Wide host range, important for ornamentals	DAS ELISA	
07170S/100	Rhodococcus fascians set / 100	100 tests	
07170S/300	Rhodococcus fascians set / 300	300 tests	
07170S/500	Rhodococcus fascians set / 500	500 tests	
07170S/1000	Rhodococcus fascians set / 1000	1000 tests	
07170C/96	Rhodococcus fascians complete kit / 96	96 tests	
07170C/480	Rhodococcus fascians complete kit / 480	480 tests	
07170C/960	Rhodococcus fascians complete kit / 960	960 tests	
07170PC	Positive Control Rhodococcus fascians inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07170NC	Negative Control Rhodococcus fascians	1 vial (10 tests)	
07178	Xanthomonas arboricola pv. corylina	Size	
	Bacterial blight of hazelnut. Host range: hazelnut.	DAS ELISA	
07178S/100	Xanthomonas arboricola pv. corylina set / 100	100 tests	
07178S/300	Xanthomonas arboricola pv. corylina set / 300	300 tests	
07178S/500	Xanthomonas arboricola pv. corylina set / 500	500 tests	
07178S/1000	Xanthomonas arboricola pv. corylina set / 1000	1000 tests	
07178C/96	Xanthomonas arboricola pv. corylina complete kit / 96	96 tests	
07178C/480	Xanthomonas arboricola pv. corylina complete kit / 480	480 tests	
07178C/960	Xanthomonas arboricola pv. corylina complete kit / 960	960 tests	
07178PC	Positive Control Xanthomonas arboricola pv. corylina inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07178NC	Negative Control Xanthomonas arboricola pv. corylina	1 vial (10 tests)	
07125	Xanthomonas axonopodis pv. begoniae	Size	
	Bacterial Leaf and Spot Blight. Ölfleckenkrankheit. Host range: Begoniae.	DAS ELISA	
07125S/100	Xanthomonas axonopodis pv. begoniae set / 100	100 tests	
07125S/300	Xanthomonas axonopodis pv. begoniae set / 300	300 tests	
07125S/500	Xanthomonas axonopodis pv. begoniae set / 500	500 tests	
07125S/1000	Xanthomonas axonopodis pv. begoniae set / 1000	1000 tests	
07125C/96	Xanthomonas axonopodis pv. begoniae complete kit / 96	96 tests	
07125C/480	Xanthomonas axonopodis pv. begoniae complete kit / 480	480 tests	
07125C/960	Xanthomonas axonopodis pv. begoniae complete kit / 960	960 tests	
07125PC	Positive Control Xanthomonas axonopodis pv. begoniae inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07125NC	Negative Control Xanthomonas axonopodis pv. begoniae	1 vial (10 tests)	
07161	Xanthomonas axonopodis pv. phaseoli	Size	
	Common Blight, Fettfleckenkrankheit. Host range: beans and some other legumes.	DAS ELISA	
07161S/100	Xanthomonas axonopodis pv. phaseoli set / 100	100 tests	
07161S/300	Xanthomonas axonopodis pv. phaseoli set / 300	300 tests	
07161S/500	Xanthomonas axonopodis pv. phaseoli set / 500	500 tests	
07161S/1000	Xanthomonas axonopodis pv. phaseoli set / 1000	1000 tests	
07161C/96	Xanthomonas axonopodis pv. phaseoli complete kit / 96	96 tests	
07161C/480	Xanthomonas axonopodis pv. phaseoli complete kit / 480	480 tests	
07161C/960	Xanthomonas axonopodis pv. phaseoli complete kit / 960	960 tests	
07161PC	Positive Control Xanthomonas axonopodis pv. phaseoli inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07161NC	Negative Control Xanthomonas axonopodis pv. phaseoli	1 vial (10 tests)	

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07122	<b>Xanthomonas campestris pv. campestris</b>	Size	
	Black Rot Disease, Blight, Leafspot of Crucifers. Host range: Brassicaceae	DAS ELISA	
07122S/100	Xanthomonas campestris pv. campestris set / 100	100 tests	
07122S/300	Xanthomonas campestris pv. campestris set / 300	300 tests	
07122S/500	Xanthomonas campestris pv. campestris set / 500	500 tests	
07122S/1000	Xanthomonas campestris pv. campestris set / 1000	1000 tests	
07122C/096	Xanthomonas campestris pv. campestris complete kit / 96	96 tests	
07122C/480	Xanthomonas campestris pv. campestris complete kit / 480	480 tests	
07122C/960	Xanthomonas campestris pv. campestris complete kit / 960	960 tests	
07122PC	Positive Control Xanthomonas campestris pv. campestris inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07122NC	Negative Control Xanthomonas campestris pv. campestris	1 vial (10 tests)	
07124	<b>Xanthomonas campestris Lobelia isolate</b>	Size	
	Host range: Lobelia.	DAS ELISA	
07124S/100	Xanthomonas campestris Lobelia isolate set / 100	100 tests	
07124S/300	Xanthomonas campestris Lobelia isolate set / 300	300 tests	
07124S/500	Xanthomonas campestris Lobelia isolate set / 500	500 tests	
07124S/1000	Xanthomonas campestris Lobelia isolate set /1000	1000 tests	
07124C/480	Xanthomonas campestris Lobelia isolate complete kit / 480	480 tests	
07124C/960	Xanthomonas campestris Lobelia isolate complete kit / 960	960 tests	
07124PC	Positive Control Xanthomonas campestris Lobelia isolate inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07124NC	Negative Control Xanthomonas campestris Lobelia isolate	1 vial (10 tests)	
07131	<b>Xanthomonas campestris pv. vesicatoria</b>	Size	
	Blackspot Disease of tomatoes. Host range: various Solanaceae.	DAS ELISA	
07131S/100	Xanthomonas campestris pv. vesicatoria set / 1000	100 tests	
07131S/300	Xanthomonas campestris pv. vesicatoria set / 300	300 tests	
07131S/500	Xanthomonas campestris pv. vesicatoria set / 500	500 tests	
07131S/1000	Xanthomonas campestris pv. vesicatoria set / 1000	1000 tests	
07131C/096	Xanthomonas campestris pv. vesicatoria complete kit / 96	96 tests	
07131C/480	Xanthomonas campestris pv. vesicatoria complete kit /480	480 tests	
07131C/960	Xanthomonas campestris pv. vesicatoria complete kit /960	960 tests	
07131PC	Positive Control Xanthomonas campestris pv. vesicatoria inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07131NC	Negative Control Xanthomonas campestris pv. vesicatoria	1 vial (10 tests)	
07102	<b>Xanthomonas citri pv. citri</b>	Size	
	Bacterial canker of citrus.	DAS ELISA	
07102S/100	Xanthomonas citri pv. citri set / 100	100 tests	
07102S/300	Xanthomonas citri pv. citri set / 300	300 tests	
07102S/500	Xanthomonas citri pv. citri set / 500	500 tests	
07102S/1000	Xanthomonas citri pv. citri set / 1000	1000 tests	
07102C/096	Xanthomonas citri pv. citri complete kit / 96	96 tests	
07102C/480	Xanthomonas citri pv. citri complete kit / 480	480 tests	
07102C/960	Xanthomonas citri pv. citri complete kit / 960	960 tests	
07210PC	ELISA Method Control GAR unspecific	1 vial (10 tests)	
07102NC	Negative Control Xanthomonas citri pv. citri	1 vial (10 tests)	

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07103	<b>Xanthomonas citri pv. aurantifolii</b>	Size	
	Bacterial canker of citrus.	DAS ELISA	
07103S/100	Xanthomonas citri pv. aurantifolii set / 100	100 tests	
07103S/300	Xanthomonas citri pv. aurantifolii set / 300	300 tests	
07103S/500	Xanthomonas citri pv. aurantifolii / 500	500 tests	
07103S/1000	Xanthomonas citri pv. aurantifolii/ 1000	1000 tests	
07103C/096	Xanthomonas citri pv. aurantifolii complete kit / 96	96 tests	
07103C/480	Xanthomonas citri pv. aurantifolii complete kit / 480	480 tests	
07103C/960	Xanthomonas citri pv. aurantifolii complete kit / 960	960 tests	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07102NC	Negative Control Xanthomonas citri pv. aurantifolii	1 vial (10 tests)	
07132	<b>Xanthomonas fragariae</b>	Size	
	Bacterial Angular Leafspot of strawberry.	DAS ELISA	
07132S/100	Xanthomonas fragariae set / 100	100 tests	
07132S/300	Xanthomonas fragariae set / 300	300 tests	
07132S/500	Xanthomonas fragariae set / 500	500 tests	
07132S/1000	Xanthomonas fragariae set / 1000	1000 tests	
07132C/096	Xanthomonas fragariae complete kit / 96	96 tests	
07132C/480	Xanthomonas fragariae complete kit / 480	480 tests	
07132C/960	Xanthomonas fragariae complete kit / 960	960 tests	
07132PC	Positive Control Xanthomonas fragariae inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07132NC	Negative Control Xanthomonas fragariae	1 vial (10 tests)	
07077	<b>Xanthomonas hortorum pv. pelargonii</b>	Size	
	Bacterial Blight of Pelargonium.	DAS ELISA	
07077S/100	Xanthomonas hortorum pv. pelargonii set / 100	100 tests	
07077S/300	Xanthomonas hortorum pv. pelargonii set / 300	300 tests	
07077S/500	Xanthomonas hortorum pv. pelargonii set / 500	500 tests	
07077S/1000	Xanthomonas hortorum pv. pelargonii set / 1000	1000 tests	
07077C/096	Xanthomonas hortorum pv. pelargonii complete kit / 96	96 tests	
07077C/480	Xanthomonas hortorum pv. pelargonii complete kit / 480	480 tests	
07077C/960	Xanthomonas hortorum pv. pelargonii complete kit / 960	960 tests	
07077PC	Positive Control Xanthomonas hortorum pv. pelargonii inactivated	1 vial (10 tests)	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07077NC	Negative Control Xanthomonas hortorum pv. pelargonii	1 vial (10 tests)	
07130	<b>Xanthomonas oryzae pv. oryzae</b>	Size	
	Xanthomonas campestris pv. oryzae. Bacterial Leaf Blight of rice.	DAS ELISA	
07130S/100	Xanthomonas oryzae pv. oryzae set / 100	100 tests	
07130S/300	Xanthomonas oryzae pv. oryzae set / 300	300 tests	
07130S/500	Xanthomonas oryzae pv. oryzae set / 500	500 tests	
07130S/1000	Xanthomonas oryzae pv. oryzae set / 1000	1000 tests	
07130C/096	Xanthomonas oryzae pv. oryzae complete kit / 96	96 tests	
07130C/480	Xanthomonas oryzae pv. oryzae complete kit / 480	480 tests	
07130C/960	Xanthomonas oryzae pv. oryzae complete kit / 960	960 tests	
07210PC	ELISA Method Control GAR unpecific	1 vial (10 tests)	
07130NC	Negative Control Xanthomonas oryzae pv. oryzae	1 vial (10 tests)	





# Immuno Fluorescence (IF)

IF is a very established method for testing especially plant bacteria, utilizing specific antibodies and a fluorescence labelled secondary antibodies for visualisation of positive samples under the fluorescence microscope

The technique based on an antigen-antibody reaction, where the detecting antibodies are tagged (labelled) with a fluorescent dye and the antigen-antibody complex is visualized using an ultraviolet (fluorescent) microscope. It allows the visualization of the distribution of the target molecule in the sample.



## When to use IF?

- Routine screening of plant material, like potato
- Analysis of plant material and identification of bacteria possible
- Diagnostic method with good confidence in positive samples

## Advantages and Limitation

- High-throughput screening
- Robust technique
- Requires only little equipment
- Fast and cheap sample preparation
- Best performance with plant bacteria – with high sensitivity
- Experienced operator needed

## Our IF formats

### Antisera and Controls

We are offering a wide range of polyclonal antisera against plant bacteria derived either from goat and rabbit for the detection of bacteria or fungi. Please refer to the product page for packaging and test sizes.

### Fluorescence labelled Secondary Antibodies

Secondary antibodies are directed against goat or rabbit, and labelled with the following fluorescence dyes. Please make sure to choose the correct secondary AB for detection. If in doubt, please contact us.

FITC: Excitation 520nm, Emission: 492 nm  
Cy3: Excitation 550nm, Emission: 570 nm

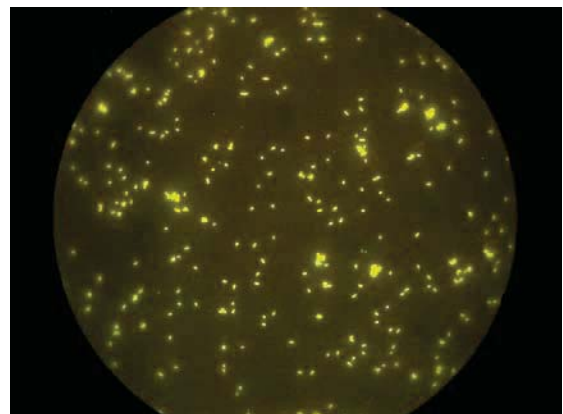
### Kits for IF for 10 000 tests

for some IF-antisera we offer convenient kits, which contain:


- pathogen-specific antiserum
- fluorescence labelled secondary antibody – (FITC, green)
- positive control

### IF-Supplements

- Multiwell Slides are available as 100 piece units
- Cover Slides are available as 1000 piece units



## Product Section

<b>Immuno Fluorescence Products</b>			
<b>Immuno Fluorescence - Antisera</b>			
<b>07354</b>	<b>Antiserum Acidovorax avenae subsp. citrulli ex rabbit</b>	<b>Size</b>	
07354/01	Antiserum Acidovorax a. subsp. citrulli ca. 5 000 tests (20µl/well)	0.1 ml	
07354/02	Antiserum Acidovorax a. subsp. citrulli ca. 10 000 tests (20µl/well)	0.2 ml	
07354/10	Antiserum Acidovorax a. subsp. citrulli ca. 50 000 tests (20µl/well)	1.0 ml	
07354PC	Positive IF Control Acidovorax a. subsp. citrulli inactivated	1 vial	
07454/10000	Immunofluorescence Kit A. avenae subsp. citrulli for 10000 tests	10 000 tests	
<b>07363</b>	<b>Antiserum Clavibacter michiganensis subsp. michiganensis ex goat</b>	<b>Size</b>	
	Recommended in EPPO Diagnostic Standard PM 7/42 (3)		
07363/01	Antiserum Clavibacter m. subsp. michiganensis ca. 50 000 tests (20µl/well)	0.1 ml	
07363/02	Antiserum Clavibacter m. subsp. michiganensis ca. 100 000 tests (20µl/well)	0.2 ml	
07363PC	Positive IF Control Clavibacter m. subsp. michiganensis inactivated	1 vial	
07463/10000	Immunofluorescence Kit C. m. subsp. michiganensis for 10000 tests	10 000 tests	
<b>07364</b>	<b>Antiserum Clavibacter michiganensis subsp. sepedonicus ex goat</b>	<b>Size</b>	
07364/01	Antiserum Clavibacter m. subsp. sepedonicus ca. 50 000 tests (20µl/well)	0.1 ml	
07364/02	Antiserum Clavibacter m. subsp. sepedonicus ca. 100 000 tests (20µl/well)	0.2 ml	
07310PC	IF Method Control RAG unspecific	1 vial	
07464/10000	Immunofluorescence Kit C. m. ssp. sepedonicus for 10000 tests	10 000 tests	
<b>07398</b>	<b>Antiserum Curtobacterium flaccumfaciens pv. flaccumfaciens ex rabbit</b>	<b>Size</b>	
07398/01	Antiserum Curtobacterium flacc. pv. flacc. ca. 5 000 tests (20µl/well)	0.1 ml	
07398/02	Antiserum Curtobacterium flacc. pv. flacc. ca. 10 000 tests (20µl/well)	0.2 ml	
07398PC	Positive IF Control Curtobacterium flacc. pv. flacc. inactivated	1 vial	
07498/10000	Immunofluorescence Kit C. f. pv. flacc. for 10000 tests	10 000 tests	
<b>07381</b>	<b>Antiserum Dickeya (=Pectobacterium) chrysanthemi ex goat</b>	<b>Size</b>	
07381/01	Antiserum Dickeya chrysanthemi ca. 5 000 tests (20µl/well)	0.1 ml	
07381/02	Antiserum Dickeya chrysanthemi ca. 10 000 tests (20µl/well)	0.2 ml	
07381/10	Antiserum Dickeya. chrysanthemi ca. 100 000 tests (20µl/well)	1.0 ml	
07381PC	Positive IF Control Dickeya chrysanthemi inactivated	1 vial	
	<b>Antiserum Dickeya dianticola see Dickeya chrysanthemi</b>		
	<b>Antiserum Dickeya solani see Dickeya chrysanthemi</b>		
<b>07329</b>	<b>Antiserum Pantoea stewartii subsp. stewartii ex rabbit</b>	<b>Size</b>	
	Recommended EPPO Diagnostic Standard PM 7/60 (2)		
07329/01	Antiserum Pantoea st. subsp. stewartii ca. 5 000 tests (20µl/well)	0.1 ml	
07329/02	Antiserum Pantoea st. subsp. stewartii ca. 10 000 tests (20µl/well)	0.2 ml	
07329/10	Antiserum Pantoea st. subsp. stewartii ca. 50 000 tests (20µl/well)	1.0 ml	
07329PC	Positive IF Control Pantoea st. subsp. stewartii inactivated	1 vial	
07429/10000	Immunofluorescence Kit P. st.subsp. stewartii for 10000 tests	10 000 tests	
<b>07381</b>	<b>Antiserum P. chrysanthemi see Dickeya chrysanthemi</b>		

## Product Section

<b>07339</b>	<b>Antiserum Pseudomonas syringae pv. tomato ex rabbit</b>	<b>Size</b>	
07339/01	Antiserum Pseudomonas s. pv. tomato ca. 1 000 tests (20µl/well)	0.1 ml	
07339/02	Antiserum Pseudomonas s. pv. tomato ca. 2 000 tests (20µl/well)	0.2 ml	
07339/10	Antiserum Pseudomonas s. pv. tomato ca. 10 000 tests (20µl/well)	1.0 ml	
07339PC	Positive Control Pseudomonas s. pv. tomato inactivated	1 vial	
<b>07356</b>	<b>Antiserum Ralstonia solanacearum ex goat</b>	<b>Size</b>	
07356/01	Antiserum Ralstonia solanacearum 50 000 tests (20µl/well)	0.1 ml	
07356/02	Antiserum Ralstonia solanacearum 100 000 tests (20µl/well)	0.2 ml	
07310PC	Method Control RAG unspecific	1 vial	
07456/10000	Immunofluorescence Kit Ralstonia solanacearum for 10 000 tests	10 000 tests	
<b>07373</b>	<b>Antiserum Xanthomonas arboricola pv. corylina ex rabbit</b>	<b>Size</b>	
07373/01	Antiserum Xanthomonas a. pv. corylina ca. 3 000 tests (20µl/well)	0.1 ml	
07373/02	Antiserum Xanthomonas a. pv. corylina ca. 6 000 tests (20µl/well)	0.2 ml	
07373/10	Antiserum Xanthomonas a. pv. corylina ca. 30 000 tests (20µl/well)	1.0 ml	
07373PC	Positive IF control X. arboricola pv. corylina inactivated	1 vial	
07473/10000	Immunofluorescence Kit X. arboricola pv. corylina for 10 000 tests	10 000 tests	
<b>07325</b>	<b>Antiserum Xanthomonas axonopodis pv. begoniae ex rabbit</b>	<b>Size</b>	
07325/01	Antiserum Xanthomonas a. pv. begoniae ca. 5 000 tests (20µl/well)	0.1 ml	
07325/02	Antiserum Xanthomonas a. pv. begoniae ca. 10 000 tests (20µl/well)	0.2 ml	
07325/10	Antiserum Xanthomonas a. pv. begoniae ca. 50 000 tests (20µl/well)	1.0 ml	
07325PC	Positive IF Control Xanthomonas axonopodis pv. begoniae inactivated	1 vial	
<b>07361</b>	<b>Antiserum Xanthomonas axonopodis pv. phaseoli fuscans ex rabbit</b>	<b>Size</b>	
07361/01	Antiserum Xanthomonas a. pv. phaseoli ca. 5 000 tests (20µl/well)	0.1 ml	
07361/02	Antiserum Xanthomonas a. pv. phaseoli ca. 10 000 tests (20µl/well)	0.2 ml	
07361/10	Antiserum Xanthomonas a. pv. phaseoli ca. 50 000 tests (20µl/well)	1.0 ml	
07361PC	Positive IF Control Xanthomonas axonopodis pv. phaseoli inactivated	1 vial	
<b>07324</b>	<b>Antiserum X. campestris Lobelia isolate ex rabbit</b>	<b>Size</b>	
07324/01	Antiserum Xanthomonas c. Lobelia isolate ca. 5 000 tests (20µl/well)	0.1 ml	
07324/02	Antiserum Xanthomonas c. Lobelia isolate ca. 10 000 tests (20µl/well)	0.2 ml	
07324/10	Antiserum Xanthomonas c. Lobelia isolate ca. 50 000 tests (20µl/well)	1.0 ml	
07324PC	Positive IF Control Xanthomonas campestris Lobelia isolate inactivated	1 vial	
<b>07331</b>	<b>Antiserum Xanthomonas campestris pv. vesicatoria ex rabbit</b>	<b>Size</b>	
07331/01	Antiserum Xanthomonas c. pv. vesicatoria ca. 2 000 tests (20µl/well)	0.1 ml	
07331/02	Antiserum Xanthomonas c. pv. vesicatoria ca. 4 000 tests (20µl/well)	0.2 ml	
07331/10	Antiserum Xanthomonas c. pv. vesicatoria ca. 20 000 tests (20µl/well)	1.0 ml	
07331PC	Positive IF Control Xanthomonas campestris pv. vesicatoria inactivated	1 vial	
<b>07302</b>	<b>Antiserum Xanthomonas citri subsp. citri ex rabbit</b>	<b>Size</b>	
07302/01	Antiserum Xanthomonas citri subsp. citri ca. 1 000 tests (20µl/well)	0.1 ml	
07302/02	Antiserum Xanthomonas citri subsp. citri ca. 2 000 tests (20µl/well)	0.2 ml	
07302/10	Antiserum Xanthomonas citri subsp. citri ca. 10 000 tests (20µl/well)	1.0 ml	
07308PC	IF Method control GAR unspecific	1 vial	
07402/10000	Immunofluorescence Kit X. citri subsp. citri for 10 000 tests	10 000 tests	



## Product Section

07332	Antiserum <i>Xanthomonas fragariae</i> ex rabbit	Size	
07332/01	Antiserum <i>Xanthomonas fragariae</i> ex rabbit ca. 1000 tests (20µl/well)	0.1 ml	
07332/02	Antiserum <i>Xanthomonas fragariae</i> ex rabbit ca. 2000 tests (20µl/well)	0.2 ml	
07332/10	Antiserum <i>Xanthomonas fragariae</i> ex rabbit ca. 10 000 tests (20µl/well)	1.0 ml	
07332PC	Positive IF Control <i>Xanthomonas fragariae</i> inactivated	1 vial	
07377	Antiserum <i>Xanthomonas hortorum</i> pv. <i>pelargonii</i> ex rabbit	Size	
07377/01	Antiserum <i>Xanthomonas</i> h. pv. <i>pelargonii</i> ca. 5 000 tests (20µl/well)	0.1 ml	
07377/02	Antiserum <i>Xanthomonas</i> h. pv. <i>pelargonii</i> ca.10 000 tests (20µl/well)	0.2 ml	
07377/10	Antiserum <i>Xanthomonas</i> h. pv. <i>pelargonii</i> ca. 50 000 tests (20µl/well)	1.0 ml	
07377PC	Positive IF Control <i>Xanthomonas hortorum</i> pv. <i>pelargonii</i> inactivated	1 vial	
07402/10000	Immunofluorescence Kit <i>Xanthomonas</i> h. pv. <i>pelargonii</i> for 10 000 tests	10 000 tests	
07330	Antiserum <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> ex rabbit	Size	
07330/01	Antiserum <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> ca. 5000 tests (20µl/well)	0.1 ml	
07330/02	Antiserum <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> ca. 10 000 tests (20µl/well)	0.2 ml	
07330/10	Antiserum <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> ca. 100 000 tests (20µl/well)	1.0 ml	
07308PC	IF Method Control GAR unspecific	1 vial	
07430/10000	Immunofluorescence Kit <i>X. oryzae</i> pv. <i>oryzae</i> for 10 000 tests	10 000 tests	
07319	Antiserum <i>Xylella fastidiosa</i> ex rabbit	Size	
07319/01	Antiserum <i>Xylella fastidiosa</i> ca. 5 000 tests (20µl/well)	0.1 ml	
07319/02	Antiserum <i>Xylella fastidiosa</i> ca. 10 000 tests (20µl/well)	0.2 ml	
07319PC	Positive IF control <i>Xylella fastidiosa</i> inactivated	1 vial	
07419/10000	Immunofluorescence Kit <i>Xylella fastidiosa</i> for 10 000 tests	10 000 tests	
07338	Antiserum <i>Xylophilus ampelinus</i> ex rabbit	Size	
07338/01	Antiserum <i>Xylophilus ampelinus</i> ca. 1 000 tests (20µl/well)	0.1 ml	
07338/02	Antiserum <i>Xylophilus ampelinus</i> ca. 2 000 tests (20µl/well)	0.2 ml	
07338/10	Antiserum <i>Xylophilus ampelinus</i> ca. 10 000 tests (20µl/well)	1.0 ml	
07338PC	Positive IF control <i>Xylophilus ampelinus</i> inactivated	1 vial	
07438/10000	Immunofluorescence Kit <i>Xylophilus ampelinus</i> for 10 000 tests	10 000 tests	
Immuno Fluorescence - Secondary Antibodies		Size	
07204	Goat-anti-rabbit IgG(H+L)Cy3™ca. 10 000 IF tests (20 µl/well)	1.5 mg	
	Stable red fluorescence. Excitation 550 nm, Emission 570 nm		
07201	Goat-anti-rabbit IgG(H+L)FITC ca. 10 000 IF tests (20 µl/well)	2.0 mg	
	Green fluorescence. Excitation 520 nm, Emission 492 nm		
07202	Rabbit-anti-goat(H+L)Cy3™ ca. 10 000 IF tests (20 µl/well)	1.5 mg	
	Stable red fluorescence. Excitation 550 nm, Emission 570 nm		
	<b>(for use with 07356, 07363, 07364 and 07381)</b>		
07200	Rabbit-anti-goat(H+L)FITC ca. 10 000 IF tests (20 µl/well)	1.5 mg	
	Green fluorescence. Excitation 520 nm, Emission 492 nm		
	<b>(for use with 07356, 07363, 07364, and 07381)</b>		

Product Section

	Immuno Fluorescence - Disposables	Size	
07400/100	Multiwell Slides IFT 10x6 blue	2x50 slides	
07401/1000	Cover Slides 24x60 mm	1000 slides	
	ELISA Chemicals	Size	
00103/025	Albumin for ELISA	25 g	
00103/100	Albumin for ELISA Special quality tested for use in ELISA.	100 g	
00104/001	Blocking Milk powder Defatted milk powder for blocking in special ELISA techniques.	1 kg	
07600/001	Coating Buffer powder Standard formulation for ELISA according to Clark and Adams (1977). No preservative added.	1 liter	
07601/001	Conjugate/Sample Buffer powder Standard formulation for ELISA according to Clark and Adams (1977). No preservative added.	1 liter	
07615/001	Conjugate/Sample Buffer LOEWE II powder Special blocking formulation for selected ELISA tests. No preservative added.	1 liter	
07613/001	Extraction Buffer LOEWE I powder Special formulation for sample extraction in ELISA 07049 TuMV /07091 TYMV.	1 liter	
07612/001	Extraction Buffer LOEWE III powder special formulation for sample extraction in ELISA 07177 TYLCV	1 liter	
00130/005	4-Nitrophenylphosphate Na <sub>2</sub> -salt hexahydrate powder	5 g	
00130/025	4-Nitrophenylphosphate Na <sub>2</sub> -salt hexahydrate powder Chromogenic substrate for determination of Alkaline Phosphatase activity.	25 g	
00134/001	Polyvinylpyrrolidone K25	1kg	
07617/010	Substrate Tablets à 20 mg 4-Nitrophenylphosphate Na <sub>2</sub> -salt hexahydrat.	10 tablets	
07618/010	Substrate Tablets à 5 mg 4-Nitrophenylphosphate Na <sub>2</sub> -salt hexahydrat.	10 tablets	
07602/025	Substrate Buffer 5X liquid	25 ml	
07602/100	Substrate Buffer 5X liquid Standard formulation for ELISA according to Clark and Adams (1977).	100 ml	
00131/100	Tween 20 @ ELISA grade Ingredient in standard ELISA buffer formulations according to Clark and Adams.	100 ml	
07603/005	Wash Buffer Powder Standard formulation for ELISA according to Clark and Adams (1977).	5 liter	

Product Section

	ELISA Disposables	Size	
07803/10	ELISA-Plates Greiner Microlon 600 High Binding	10 pieces	
07803/40	ELISA-Plates Greiner Microlon 600 High Binding	40 pieces	
07803/80	ELISA-Plates Greiner Microlon 600 High Binding	80 pieces	
07800/05	ELISA-Plates Nunc MaxiSorp™	5 pieces	
07800/10	ELISA-Plates Nunc MaxiSorp™	10 pieces	
07800/60	ELISA-Plates Nunc MaxiSorp™	60 pieces	
07802/010	Sealing Tapes suitable for 96-well ELISA plates, multiple use	10 tapes	
07802/100	Sealing Tapes suitable for 96-well ELISA plates, multiple use	100 tapes	

ELISA Chemicals and Disposables

## Shipping and Storage

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**Our Reagents are shipped at room temperature without ice packs.**

**The quality of the products is not affected during transport, even at elevated summer temperatures.**

The stability at 37 °C for a duration 2 weeks has been evaluated during studies in our laboratory, without observing a significant loss in activity. Therefore the functionality of the ELISA antibodies, IF antisera and PCR reagents is not affected even in case of prolonged shipping and custom procedures, when they have been kept at room temperature.

However, after receipt, the products should be kept at the indicated temperature for long-term storage:  
IF-antisera and secondary antibodies: at or below -20°C (avoid repeated freezing- and thawing cycles, freeze in suitable aliquots, if applicable)  
ELISA reagents and controls: +4°C (refrigerator)  
PCR reagents: at or below -20°C  
Buffers and chemicals: as indicated on the product labels  
Positive controls for ELISA, PCR, or IF, that have been dissolved can be aliquoted and stored frozen. However, depending on the pathogen, the activity may decrease to some extent over time.

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## ELISA Tips and Tricks

### ELISA – a simple experiment ?

ELISA experiments follow a simple work routine and thus it is tempting to believe that this type of experiments needs no special expertise. This short introduction will draw your attention to some important facts, that might be neglected and will assist you to solve potential problems.

### Sampling

Correct sampling is in fact the key to successful ELISA testing. Thus, by designing the experiment, please reconsider the following questions:

- Did you choose the right season and temperature for sampling?
- Did you choose the right parts of the plants (leaves, blossoms, roots, stems, seeds, tubers)
- What about the age of the plants?
- Did you take mixed samples or individual samples from different parts of the plant?
- Are enrichment steps necessary (culture of bacteria or fungi on selective or enrichment media)?
- Is transportation and storage well organized (short time, cool environment, refrigerator, no storage or transport during weekend or holidays)

Guidelines for sampling are often stated in official diagnostic protocols published by plant health organisations such as EPPO (*European Plant Protection Organisation*) or ISTA (*International Seed Testing Association*) for a particular pathogen.

## Product Dating

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**Best-before-dated products** (ELISA reagents, PCR reagents, LOEWEFAST® Lateral flow kits)

These products undergo an internal re-testing regime and have a quality control release date. The 'best-before' date and the quality control release date is published on the Product Specification sheet.

**Other products** (e.g. Buffer Substances, Antisera for IF, Positive and Negative Controls)

A significant number of LOEWE® products are not issued a 'best-before-date'. In some cases the initial quality control release is shown on the Product Specification sheet. However, these products are included in our various internal re-test and product review programs. Customers, who require a formal date management should use one year from shipment.

Note: 'Best-before-dates' indicated on our labels and/or Product Specification sheets are only valid, if the product is stored under LOEWE®'s defined conditions and the container is unopened. Short-term storage at room temperature (e.g. during shipment) does not influence the usability of the products.

Product dating does not release the customer from proper inspection when receiving the goods and does not warrant the usability of a product for any other use than defined by Loewe® in the Product Specification and Instructions.

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### Sample preparation for ELISA

Leaves and juicy samples can be squeezed in simple plastic bags using commercial homogenizers, a hammer, Pollähne juice presses etc. Some fibrous tissues (mycelia of fungi, woody plant parts), however, need grinding with sand in mortars to assure proper crushing of the cell walls.

**It is very important to dilute the samples sufficiently, i.e. min. 1:20 to 1:30.** Positive samples - when used too concentrated - sometimes give no or too low signals. At the same time, negative samples can exhibit high background reactions.

### Choice of the ELISA plate

The quality of the ELISA plate has a **dramatic effect** on the sensitivity of the ELISA assay in terms of OD value, detection limit, and background behaviour. LOEWE® is using NUNC Maxisorp™ and Greiner Microton High-Binding plates for standardizing its ELISA reagents.

**To obtain high-quality results it is absolutely necessary to use a high-affinity plates.**

### Washing

**Careful washing is also a crucial point.** Best and reproducible results are obtained by using automated ELISA washers. Washing by hand represents the most gentle method but often leads to irreproducible results. Automated washers on the other hand have to be optimized because the pressure of washing buffer injection into the wells is often too high. Wrong pressure and too extensive washing can lead to weak results. Also, daily cleaning of the washer is important for reproducible function.

### Storage of plates between individual ELISA steps:

This is important in case many plates have to be handled simultaneously. We recommend to store plates covered with a tape in the refrigerator until use.

### ELISA Buffers

Do not use other buffer formulations besides the ones given in our protocol because our ELISA reagents are standardized using these buffers.

**It is important to adjust and control the pH value of the buffers.** The pH of the substrate buffer is especially important, because the enzymatic activity of the alkaline phosphatase has a very small optimum at pH 9.8. Deviations lead to a considerable reduction of the OD values. Especially albumin-containing sample and conjugate buffers are prone to microbial growth if stored in the refrigerator, which can lead to odd ELISA results. **Use ready-to-use buffer solutions as fresh as possible. Store aliquots in the freezer until use!** Alkaline buffers should be stored in glass bottles.

### Dilution of Controls

The controls represent lyophilized samples from healthy (negative controls) or infected plants (positive controls). Bacterial and fungal positive controls are routinely made from inactivated extracts of bacterial or mycelial suspensions. Lyophilized controls can be stored in the refrigerator, for long-term storage they can be frozen. Solubilized positive controls should be stored frozen in suitable aliquots until use. Please note, that after solubilisation, losses in activity occur with many pathogens upon freezing and thawing.

### Sample Volume

Our ELISA reagents are standardized for a sample volume of 0.2 ml/well, if not indicated otherwise in the product manual. We do not recommend smaller volumes and cannot guarantee the OD valued stated in our product specifications if other volumes are used.

### Incubation Temperatures and - Times

We refer you to our standard protocol. In case there are practical reasons against this scheme, it is in the responsibility of the user to test whether modified incubation temperatures and times lead to the same reliable result as the standard protocol.

### Sensitivity of the Assay / Establishing the +/- Threshold

To determine the sensitivity of your assay we recommend to prepare a dilution series from our positive control in steps of ten. Thereby you can estimate whether the detection limit you obtain is comparable to the one we state in our certificate.

Determining the +/- threshold in plant disease diagnostics is still a crucial problem. One frequently used method is to calculate the mean value + 3 x standard deviation. For calculating this threshold it is absolutely necessary to have several healthy plants of the same species at the same plate. Run all samples in duplicate. Comparison with a second independent method of pathogen detection is recommended for borderline results.

**Last but not least: always cover your plate with sealing tape!**

### Troubleshooting

ERROR	CAUSE	SOLUTION
No colour development	<ul style="list-style-type: none"><li>• IgG and/or AP-Conjugate omitted</li><li>• wrong positive control, wrong reagents</li><li>• positive control lost activity</li></ul>	<ul style="list-style-type: none"><li>• repeat tests</li><li>• replace reagents</li><li>• use fresh positive control</li></ul>
Weak colour development	<ul style="list-style-type: none"><li>• low quality ELISA plate</li><li>• wrong dilution</li><li>• wrong storage of reactants</li><li>• water used for washing step</li></ul>	<ul style="list-style-type: none"><li>• use high-affinity plate</li><li>• repeat test with correct dilutions</li><li>• repeat test with fresh material</li><li>• repeat with wash buffer</li></ul>
Irregular colour	<ul style="list-style-type: none"><li>• incomplete washing or spillage</li><li>• insufficient mixing of the reagents</li></ul>	<ul style="list-style-type: none"><li>• check washing procedure</li><li>• mix all reagents (especially IgG and AP-Conjugate) thoroughly</li></ul>
All wells turn yellow	<ul style="list-style-type: none"><li>• AP-Conjugate used for coating step</li></ul>	<ul style="list-style-type: none"><li>• repeat test</li></ul>
High background	<ul style="list-style-type: none"><li>• wrong dilution of IgG and/or AP-Conjugate</li><li>• plate has not been covered</li><li>• wrong sample/extraction buffer</li><li>• old ELISA buffers</li><li>• IgG contaminated with AP-Conjugate by contamination of pipettes or buffer reservoir with AP-Conjugate</li><li>• Insufficient washing of plate</li></ul>	<ul style="list-style-type: none"><li>• repeat test with correct dilutions</li><li>• cover with sealing tape</li><li>• repeat with our buffer formulations</li><li>• use buffers as fresh as possible, freeze aliquots until use!</li><li>• Never use the same reservoir or pipettes for IgG and AP-Conjugate</li><li>• <b>Use filtered tips and one-way labware only!</b> Check washing procedure</li></ul>

## **ALLGEMEINE VERKAUFS – UND LIEFERBEDINGUNGEN (Inland)**

### **Allgemeines**

Unsere Verkaufs- und Lieferbedingungen sind Bestandteil aller Angebote und aller mit unseren Kunden geschlossenen Verträge. Einkaufsbedingungen des Kunden verpflichten uns auch dann nicht, wenn wir nicht ausdrücklich widersprechen. Mit der Auftragserteilung erkennt der Kunde unsere Bedingungen stillschweigend an, ohne dass es einer besonderen Vereinbarung bedarf.

### **Angebote, Aufträge**

Unsere Angebote sind bezüglich Preis, Liefermenge und -frist freibleibend. Dies gilt auch für unsere Kataloge und Preislisten. Schriftlich oder mündlich erteilte Aufträge gelten nur dann als von uns akzeptiert, wenn sie schriftlich bestätigt werden. Die Rechnungserteilung gilt als Auftragsbestätigung.

### **Preise**

Unsere Preise verstehen sich zuzüglich der gesetzlichen Mehrwertsteuer in der jeweils gültigen Höhe. Bestätigte Preise sind freibleibend. Wenn nicht bei Vertragsabschluss anders durch uns schriftlich bestätigt, sind für die Berechnung die am Tage der Lieferung gültigen Preise maßgebend.

### **Versand**

Bei Aufträgen über 150.00 Euro netto liefern wir frei Postamt oder Bahnstation ohne Verpackungszuschlag. Bei Aufträgen unter 150.00 Euro netto berechnen wir Verpackungs- sowie Versandkosten. Zustellgebühren für Paketsendungen sowie Rollgelder gehen in jedem Fall zu Lasten des Bestellers. Wir behalten uns die Wahl der jeweils günstigsten Versandart vor. Der Versand erfolgt unversichert auf Gefahr des Käufers; eine Transportversicherung wird nur auf ausdrückliche Anweisung und auf Kosten des Käufers abgeschlossen.

### **Zahlungsbedingungen**

Unsere Rechnungen gelten als anerkannt, falls nicht innerhalb von 30 Tagen schriftlich widersprochen wird. Die Zahlungsfrist läuft ab Rechnungsdatum und beträgt 30 Tage. Bei Zahlungsverzug des Käufers wird auch ein nichtfälliger Teil der Schuld fällig und sofort einforderbar. Der Verkäufer kann ausstehende Lieferungen verweigern, bis der Käufer seiner Zahlungspflicht nachgekommen ist.

### **Eigentumsvorbehalt**

Die gelieferte Ware bleibt bis zur völligen Bezahlung des Kaufpreises unser Eigentum. Der Käufer ist bis dahin nicht berechtigt, die Ware an Dritte zu verpfänden, oder als Sicherheit zu übereignen. Der Käufer ist widerruflich zur Weiterveräußerung dieser Vorbehaltsware im Rahmen eines geordneten Geschäftsbetriebs berechtigt. Die aus einer Weiterveräußerung an Dritte entstehenden Forderungen tritt er in Höhe unserer Forderungen an uns ab. Zugriffe Dritter auf die Vorbehaltsware oder abgetretene Forderungen müssen uns unverzüglich angezeigt werden. Der Käufer trägt für die Dauer des Eigentumsvorbehalts die Verantwortung für ausreichende Versicherung und für die Einhaltung der Lagerungsvorschriften.

### **Haftung**

Unsere Produkte sind nur für den Labor- und Fabrikationsbereich bestimmt. Sie dürfen weder in der Humanmedizin noch im Haushalt noch als Lebens- und Genussmittel verwendet werden. Wir haften nicht für Personen-, Sach- und Vermögensschäden, die durch unsachgemäße und bestimmungswidrige Handhabung unserer Produkte entstanden sind. Wir lehnen auch jeden Haftungsrückgriff für Schäden ab, welche unseren Kunden durch Nichtbeachtung gesetzlicher Schutzbestimmungen entstanden sind. Soweit wir nicht Hersteller der von uns vertriebenen Produkte sind, beschränkt sich unsere Produkthaftung auf unsere Tätigkeit als Lieferant. Insbesondere übernehmen Besteller von Positivkontrollen die Verantwortung für das Hantieren, Lagern und für den möglichen Missbrauch dieser Produkte. Es liegt in der Verantwortung des Käufers, festzustellen, ob er entsprechend der gültigen gesetzlichen Bestimmungen diese Produkte beziehen und mit Ihnen umgehen darf.

### **Beanstandungen / Rücksendungen**

Mängelrügen müssen innerhalb von 7 Tagen nach Empfang der Ware schriftlich geltend gemacht werden. Mängelrügen entbinden den Käufer nicht von seiner Zahlungspflicht. Die beanstandete Ware darf nur mit unserem vorherigen ausdrücklichen Einverständnis zurückgesandt werden. Bei berechtigten Beanstandungen behalten wir uns die Wahl zwischen Ersatzlieferung und Gutschrift vor.

### **Erfüllungsort / Gerichtsstand**

Erfüllungsort für Lieferung und Zahlung ist Sauerlach. Gerichtsstand ist München.

## **GENERAL TERMS AND CONDITIONS FOR NON-DOMESTIC SALE**

### **Prices and Terms of Payment**

The prices listed in our product catalogue are net of the handling fee, VAT as required by law and the respective shipping costs. Please contact our office in Sauerlach, Germany for direct orders or information about the possibility to order through our local supplier. We do not accept payment by credit card. Payment is in advance unless agreed otherwise. All bank charges and costs for money transfer to our account in Germany are on the purchaser's full expense. Shipping and handling charges will be applied to the invoice. Please contact us for details on bank transfer.

### **Delivery terms and shipping**

Delivery and services are CPT (Carriage Paid To) in reference to Incoterms 2010, unless agreed differently. With the transfer of the material to the freight carrier, the risk of accidental deterioration and accidental loss passes to the customer.

Products are shipped at ambient temperature via TNT, DHL, FEDEX, UPS or others. Purchasers outside Germany bear all freight costs. LOEWE® Biochemica GmbH only obtains transportation insurance with written a request from the customer. If you have special shipping requirements, please provide clear instructions when ordering.

The deliveries and services are subject to various national and international provisions, in particular infection protection law, genetic engineering law and arms control law. The customer is required to inform himself of the provisions of the above-mentioned laws as well as any recent or relevant updates to these laws. The customer assumes sole responsibility for compliance with the applicable laws. LOEWE® Biochemica GmbH assumes no liability for legal violations or breaches of duty by the customer. Inquiring about current national regulations such as import restrictions is also the responsibility of the customer. If import documents are required, the customer is obligated to provide these to LOEWE® Biochemica GmbH unsolicited and in a timely manner.

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### **Warranties and Liabilities**

LOEWE® Biochemica GmbH warrants that its products perform as described in our product specification sheets. Should any product fail for reasons other than misuse, at LOEWE® Biochemica GmbH's option, it will be replaced free of charge, or the purchase price will be refunded. Returns must be authorized by us. This warranty is exclusive, and LOEWE® Biochemica GmbH makes no other warranty expressed or implied. LOEWE® Biochemica GmbH shall not be liable for any accidental, consequential, or contingent damages. Please contact our technical service in case you have any question, or if a product fails to work as expected.

### **Discounts**

For information on bulk or volume discounts, please contact us.

### **Proper Handling**

All chemicals are produced for laboratory use for professionals only. We cannot accept liability caused by improper handling within the laboratory or in the household or when used on humans or animals. Our products are in particular not admitted for human application. Customers ordering and receiving products for testing plant pathogens assume all responsibility for the proper and legally compliant handling of the biological material. The customer must ensure that the biological material received is processed by adequately trained qualified personnel and in an adequate laboratory environment.

LOEWE® Biochemica GmbH is not responsible for damages and/or injuries arising from their supply. It is also in the responsibility of the customer to verify whether he/she is allowed to receive and handle this material.

### **Jurisdiction**

German law and German Jurisdiction are applicable to all legal and contractual disputes. Exclusive place of jurisdiction is Munich.

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