

Molecular Diagnostics

The PCR technique allows specific and sensitive detection of plant pathogens, when other test serological reagents are not available or a second method is needed, as often demanded in diagnostic protocols recommended by the European Plant Protection Organisation (EPPO). In addition to PCR reagents for DNA amplification of plant bacteria, phytoplasma and fungi, we are introducing our new complete RNA PCR reaction kits for reverse transcriptase PCR of RNA plant viruses.

- ✓ Specific and sensitive diagnostic method
- ✓ Ready-to-use, fast and cost effective
- ✓ Optimized and evaluated conditions for the amplification reaction
- ✓ Shipping at room temperature - no dry ice needed!
- ✓ Manufactured under certified quality management system conditions (ISO9001:2008)

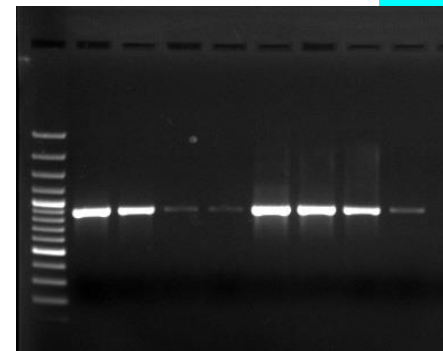
PCR Sets and Complete Reaction Kits for DNA amplification

PCR sets contain a premix, including the pathogen specific primers and dNTPs for 100 PCR reactions and positive and negative controls for 10 reactions.

Complete PCR reaction kits include premix, positive and negative controls, DNA-Polymerase and buffers. Your sample DNA* is subjected to a pre-tested and evaluated PCR system and a detailed protocol is provided.

One-tube - One-step RNA-PCR complete reaction kits

The kits contain a thermostable Reverse Transcriptase and a Hot-Start DNA Polymerase, pathogen specific primers and dNTPs, DNA based positive and negative controls for the PCR reaction.



PCR Kits Content:	Complete PCR Reaction Kits	Complete RNA PCR Reaction Kits
Intended use:	DNA amplification from bacteria, fungi, phytoplasmas	Reverse transcription of RNA and subsequent cDNA amplification from RNA viruses
Premix (Primers, dNTPs)	✓	✓
DNA-Polymerase	✓	✓
RT-RNA Polymerase	-	✓
10 x Reaction Buffer	✓	✓
PCR-grade Water	✓	✓
Dithiothreitol (DTT)	-	✓
Positive Control (DNA based)	✓	✓
Negative Control (DNA based)	✓	✓

(* Reagents for DNA or RNA isolation are not included in the kit, please refer to renowned brands)

LOEWE®FAST Rapid Test Series

The **LOEWE®FAST** rapid test series is designed for reliable and specific detection of plant pathogens within minutes. As stand-alone diagnostic tool these tests provide quick and easy assessment of suspicious plant material in the field or greenhouse without the need of a laboratory or specialized laboratory staff.



- ✓ Fast - easy - on the spot
- ✓ Specific detection of plant pathogens within minutes
- ✓ Testing in the field or greenhouse without the need of a laboratory
- ✓ LOEWE®FAST basic kits include:
 - 5 single-use test cassettes
 - 5 pre-filled tubes with sample buffer
 - 5 single-use pipettes for sample application
- ✓ Other package sizes are also available.
- ✓ Available for an increasing number of pathogens

Sample preparation methods for LOEWE®FAST tests depending on the plant material to be tested.

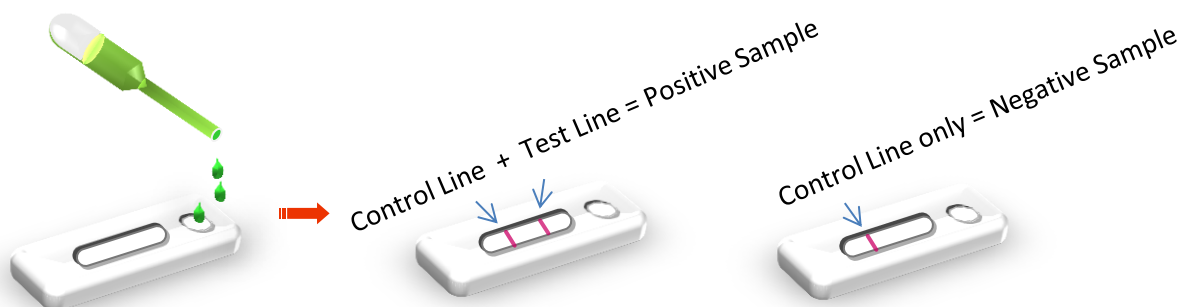
Method 1: Testing for pathogen presence in non-symptomatic plants using a mixed sample:

Collect about 1 g of leaf material from different portions of the plant, homogenize the tissue in a plastic bag, fill with 10 ml of 1xPBS solution (cat. no. LF700BU/01) and mix. Transfer 3 drops (or 100 µl) of this diluted plant sap to the tube pre-filled with sample buffer and mix thoroughly.

Method 2: Identifying a pathogen in symptomatic plants

By using the cap of the sample buffer pre-filled tube, punch out a piece of a symptomatic leaf or remove about 0.5 cm² of tissue and place it into the tube pre-filled with sample buffer. Homogenize the tissue in the tube. We separately offer suitable micro-pestles for homogenization (cat. no. LF07810).

Please find us at Facebook for a 'How-to-do' demonstration video!



ELISA Products

In plant disease diagnostics ELISA (Enzyme-linked Immunosorbent Assay) is the most common test method for the detection of plant pathogens, like viruses and bacteria. LOEWE® offers a range of more than 150 high quality ELISA products for specific and sensitive detection of plant diseases. ELISA reagents can be supplied as ELISA sets or complete kits. All necessary reagents, buffers and plates are also available separately.

ELISA Sets

contain **IgG for coating and AP-Conjugate** and are supplied as 100, 300, 500, and for many pathogens as 1000 and 5000 test units.

One test corresponds to one well in the ELISA plate. The reagents are optimized and evaluated only for a test volume of 200µl, if not indicated otherwise in the test manual, ensuring highest accuracy, repeatability and sensitivity.

ELISA Complete Kits

available for 96, 480, and 960 tests. The kits contain all ELISA reagents, controls, buffers and ELISA plates or modules to perform the ELISA assay:

Components	96 test format	480 test format	960 test format
Antibody (IgG)	0.1 ml	0.5 ml	1.0 ml
Antibody-AP-conjugate	0.1 ml	0.5 ml	1.0 ml
Positive Control	10 tests	10 tests	20 tests
Negative Control	10 tests	10 tests	20 tests
Coating Buffer	1 liter	1 liter	1 liter
Wash Buffer	1 x 5 liter	1 x 5 liter	2 x 5 liter
Conjugate/Sample Buffer	1 x 1 liter	2 x 1 liter	4 x 1 liter
Substrate Buffer (5x)	1 x 25 ml	1 x 25 ml	2 x 25 ml
Substrate Tablets	4 x 5 mg	5 x 20 mg	10 x 20 mg
Tween 20	10 ml	10 ml	10 ml
High-binding ELISA plates	12 Modules à 8 wells	5 plates	10 plates
Sealing Cover	1	5	10

ELISA Positive and Negative Controls

Negative controls are made from a healthy host plant and are tested for the absence of the respective pathogen. They are lyophilized and sufficient for 10 test wells. Positive controls are made from infected plant material or bacterial cultures, if not stated otherwise. They are lyophilized and sufficient for 10 test wells. Inactivated positive controls are additionally tested for the absence of infectivity. Unspecific non-pathogenic 'method' controls are sold for some quarantine pathogens.

Antisera for Immuno Fluorescence

We are offering a wide range of polyclonal antisera from goat and rabbit, secondary fluorescence labelled antibodies, as well as multiwell slides and cover slides for immuno fluorescence studies:

- ✓ Antisera and Controls
- ✓ Fluorescence labelled Secondary Antibodies (FITC or Cy3™)
- ✓ Multiwell Slides
- ✓ Cover Slides

