



NIPPON GENE

Phytoplasma Universal Detection Kit

Product name	Contents
Phytoplasma Universal Detection Kit	48 tests

Abstract

This kit is the product to universally detect *Candidatus* Phytoplasma species by isothermal amplification reaction using LAMP (Loop-mediated Isothermal Amplification) method. It can be tested whether Phytoplasmas exist in host plants with this product. Infection of Phytoplasmas is judged by the amplification of DNA. This kit is effective for the highly-sensitive diagnosis of Phytoplasma disease. This kit allows the whole reaction process to proceed at a constant temperature in an incubator. Thermal cycling machine is not needed for this kit.



Phytoplasmas are plant pathogenic bacteria associated with devastating damage to over 700 plant species worldwide. They are transmitted by insect vectors. Infected plants show a wide range of symptoms including stunting, yellowing, witches' broom, phyllody, virescence, proliferation, purple top, and phloem necrosis.

Example of Phytoplasma disease:
Hydrangea phyllody

Product overview

- All the necessary contents are included** Other reagents are not necessary
- Simple and easy** Extract DNA from host plants easily and start immediately
- Clear judgement** Visible fluorescence suggests the result
- Low risk of contamination** No electrophoresis is needed
- High reliability of oligonucleotide** Reliable oligonucleotide made in conformity with ISO 13485 used as raw materials



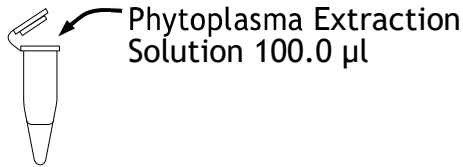
Contents

- Phytoplasma Extraction Solution
- Phytoplasma Detection Solution
- Phytoplasma Positive Control
- Mineral Oil
- Fluorescent Detection Solution
- Phytoplasma Enzyme Solution
- Test Tube
- Instruction Manual

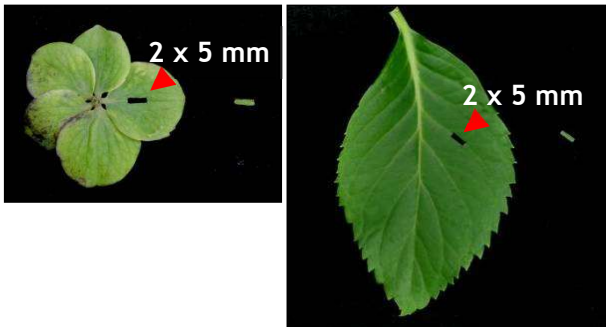
Protocol

- Phytoplasma Detection from hydrangea leaves -

1. Dispense Phytoplasma Extraction Solution into each microtube (100.0 µl per tube)



2. Cut off calyx or leaf vein of hydrangea and soak it in the Phytoplasma Extraction Solution



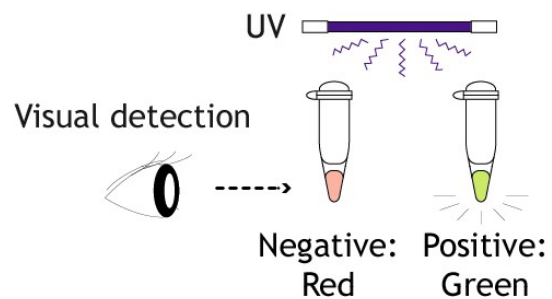
3. Incubate at 95°C for 10 minutes (DNA extraction)

4. Prepare Test Solution

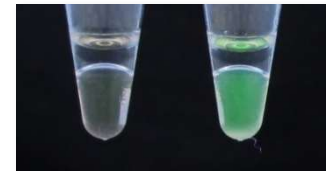
Reagents	1 test	8+1 tests*
Phytoplasma Detection Solution	21.0 µl	189.0 µl
Fluorescent Detection Solution	1.0 µl	9.0 µl
Phytoplasma Enzyme Solution	1.0 µl	9.0 µl
Total	23.0 µl	207.0 µl

* Prepare 1 test extra solution to prevent deficiency of solution when dispensing.

5. Dispense Test Solution into each Test Tube (23.0 µl per tube)
6. Add DNA sample prepared in process 1-3 to each Test Tube (2.0 µl per tube)
7. Add Mineral Oil (20.0 µl per tube)
8. Incubate at 64°C for 60 minutes (DNA amplification)
9. Heat at 80°C for 2 minutes (Enzyme inactivation)
10. Judgement of negative or positive with fluorescence



Examples



LAMP Kits and Testing Service

TYLCV Detection Kit	LAMP Primer Set for <i>Pythium</i>
<i>Candidatus Liberibacter asiaticus</i> Detection Kit	LAMP Primer Set for Phytoplasma (<i>Ca. P. asteris</i> , <i>Ca. P. japonicum</i>)
CCYV Detection Kit	LAMP Primer Set for <i>Legionella londiniensis</i>
PPV Detection Kit	LAMP Primer Set for Mumps Virus
FMV Detection Kit	LAMP Primer Set for Measles Virus
<i>Bursaphelenchus xylophilus</i> Detection Kit	LAMP Primer Set for <i>Mycobacterium avium</i> subspecies <i>paratuberculosis</i>
Phytoplasma Universal Detection Kit	Red tide causative species Detection Kit 1 - <i>Karenia mikimotoi</i> -
<i>Bemisia tabaci</i> Q biotype Detection Kit	Red tide causative species Detection Kit 2 - <i>Chattonella</i> spp.-
Koshihikari LAMP Identification Kit	Plant Clinic Series (<i>Ca. L. solanacearum</i> , PepMV, SPV2)
Sika Deer Sexing Kit	Clubroot density measurement service
Sika Deer and Japanese Serow Discrimination Kit	



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License:

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