CCCVd Detection Kits

Cat. No. *PDD-351*

Lot. No. (See product label)

Product Name

CCCVd Detection Kits

Product Overview

Coconut Cadang-Cadang Viroid (CCCVd) TaqMan RT-PCR Kit is designed for the detection of CCCVd specific RNA in a real-time PCR.

Description

Coconut Cadang-Cadang Viroid (CCCVd) RT-PCR Kit is designed for the detection of CCCVd specific RNA in a real-time PCR based on the use of TaqMan technology. This kit is designed for research use only and not for use in diagnostic procedures. The detection of CCCVd specific RNA is based on TaqMan one-step RT-PCR providing a simple, reliable and rapid result for the detection of CCCVd infection. CCCVd TaqMan RT-PCR Kit includes a PCR control to monitor for PCR inhibition, and to validate the quality of the sample and the detection result. The CCCVd RT-PCR Kit comprises Master Mix for the target and PCR control detection, Primer & Probe Mix, as well as a positive control and a negative control (nuclease-free water) to confirm the integrity of the kit reagents.

Notes

1. Before use, suitable amounts of all components should be completely thawed at room temperature, mixed by gentle vortexing or by pipetting, and centrifuged briefly.
2. Work quickly on ice.
3. The recommended minimum number of DNA samples tested per PCR run is 6.

Sample Type

Viroid

Warning

1. Follow universal precautions. All specimens should be considered as potentially infectious and handled accordingly.
2. Ensure that a suitable lab coat, disposable gloves, and protective goggles are worn when handling specimens and kit reagents.
3. Use sterile pipette tips with filters. Use proper pipetting techniques and maintain the same pipetting pattern throughout the procedure to ensure optimal and reproducible values.
4. Ensure that appropriate specimen collection, transport, storage, and processing techniques are followed for optimal performance of this test.

Kit Components

1. MDx 2X RT-PCR Master Mi 3 x 350 µL
2. CCCVd Primer & Probe Mix 3 x 70 µL
3. CCCVd Positive Control 3 x 50 µL
4. Nuclease-Free Water (Negativet l) 1.25 mL
5. Product Insert 1 1

Materials Required but Not Supplied

1. Appropriate Real-Time PCR Instrument with FAM and HEX filter channel
2. DNA Purification Kit
3. Disposable powder-free gloves
4. Benchtop microcentrifuge
5. Micropipettors
6. Sterile pipette tips with filters
7. PCR tubes
8. Vortex mixer
9. PCR reaction preparation station (Optional)

Scientific Background

Cadang-cadang is a lethal disease of coconut (Cocos nucifera) caused by the Coconut cadangcadang viroid (CCCVd). The coconut cadang-cadang viroid is the smallest known pathogen and is biologically distinct from

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other viroids. The viroid consists of circular or linear single-stranded RNA with a size of 246 or 247 nucleotides. The viroid is mechanically transmissible via nucleic acid inocula, however the mode of natural transmission is not known. The viroid is only detected in Palmae. The mode of natural transmission is unknown and eradication measures fail to control the disease. Coconut Cadang-Cadang Viroid End-Point RT-PCR Detection Kit is a rapid and sensitive CCCVd detection tool which can be applicable for the early diagnosis of CCCVd.

Detection method

PCR

Features & Benefits

The specificity of CCCVd RT-PCR Detection Kit is first and foremost ensured by the selection of the CCCVd-specific primers, as well as the selection of stringent reaction conditions.

Preparation

Purified RNA is the starting material for Coconut Cadang-Cadang Viroid (CCCVd) RT-PCR Kit. The quality of the RNA template will have a major impact on the performance of the CCCVd detection test. The user must ensure that the method used for RNA purification is compatible with TaqMan One-Step RT-PCR. If using a different spin column-based sample preparation procedure that includes ethanol-based wash buffers, a column drying step consisting of centrifugation for 3 minutes at 20,000 x g (~14,000 RPM), using a new collection tube, is highly recommended prior to the elution of the RNA. This will help to prevent the carry-over of any ethanol into the purified RNA, as ethanol is known to be a strong inhibitor of PCR. Ensure that any traces of ethanol from the sample preparation steps are eliminated prior to the elution of the RNA.

Assay Protocol

Detailed instructions, including assay protocol, are available in each corresponding product for operational reference.

Storage

All kit components should be stored at -20°C upon arrival. Repeated thawing and freezing (> 2 x) of the Master Mix and Positive Control should be avoided, as this may affect the performance of the assay. If the reagents are to be used only intermittently, they should be frozen in aliquots. All reagents can be stored for 1 year at -20°C without showing any reduction in performance.

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