

# PlantOpsis™ DirectPCR-A

**For Research Use Only**

REF #: 732025, 732100, 7321000

Store at room temperature

## **Research Use Only (RUO)**

**not to be used for veterinary or clinical applications**

PlantOpsis™ DirectPCR-A is intended for extraction-free amplification of nucleic acids from compatible plant samples.

## 01 INTRODUCTION

PlantOpsis™ DirectPCR-A is engineered to simultaneously bind a variety of reverse transcriptase quantitative polymerase chain reaction (RT-qPCR) and PCR inhibitors found in plant samples, lyse viruses and cells, and stabilize nucleic acids in a manner that's compatible with RT-qPCR / PCR. The product consists of a proprietary mixture of peptides, salts, stabilizers, buffers, sodium azide, and RVD Enhancer to achieve these tasks. PlantOpsis™ DirectPCR-A allows for extraction-free amplification of RNA / DNA from plant samples without performing nucleic acid isolation, centrifugations or other sample manipulations, which may introduce errors, contaminants and/or skew the representation of RNA fragments.

## 02 PRODUCT SIZE

Catalog Number	Volume
732025	25 mL
732100	100 mL
7321000	1000 mL

## 03 STORAGE & STABILITY

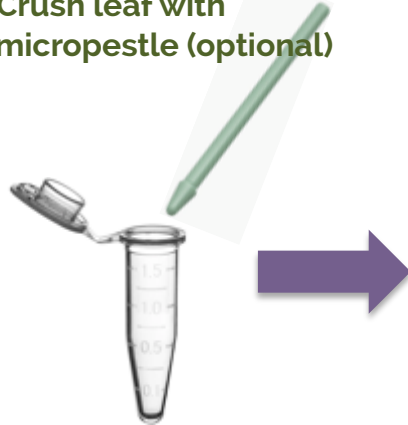
PlantOpsis™ DirectPCR-A is shipped and stored at room temperature. The recommended storage temperature is: 4°C ~ 25°C

## 04 OVERVIEW OF PROTOCOL



DirectPCR-A

- Mix 50~200  $\mu$ L reagent with a leaf punch
- Crush leaf with micropestle (optional)



Heat plant sample at 80~95°C for 10 minutes



Use processed sample into your desired PCR mixture (sample = 10% ~ 40% of total volume)



Plant test sample

NOTE: samples can be heated in a thermal cycler, heating block, oven, or hot water

## 05 WRITTEN PROTOCOL

1. Thoroughly mix **PlantOpsis™** DirectPCR-A to ensure homogeneity, but avoid creating bubbles unnecessarily
  1. DirectPCR-A has a hazy, white color when homogenized and normal settlement occurs if not regularly mixed
2. Add 50 ~ 200  $\mu$ L of **PlantOpsis™** DirectPCR-A into a small, plastic tube (e.g., 1.5 mL tube)
  1. The volume of reagent will depend on the size of your sample and type of sample
3. Place leaf punch (4~6 mm diameter) into tube with reagent
  1. OPTIONAL: Thoroughly crush the plant sample in **PlantOpsis™** DirectPCR-A with a clean, blunt object (e.g., micropestle). This may improve or hinder amplification of your target gene region.
4. Heat the sample at 80~95°C for 10~20 minutes and let cool at room temperature for ~10 seconds before continuing
  1. The sample can be heated by placing the tube in hot water or using a heating block, thermal cycler, or oven
5. Use processed sample in your desired PCR application
  1. Processed sample should represent 10% ~ 40% of your final PCR mixture

## 06 TROUBLESHOOTING & SUGGESTIONS

1. PlantOpsis™ DirectPCR-A is optimized for the amplification of gene targets from plant samples and may not be applicable for other applications.
2. For best results, use recently collected, fresh plant samples.
3. Ensure that the processed sample consist of 10% ~ 40% of the total PCR mixture, since high concentrations of reagent and/or sample may inhibit PCR for some applications.
4. Take care in maintaining the sterility of your PlantOpsis™ DirectPCR-A stock after use.
5. Heat PlantOpsis™ DirectPCR-A / sample mixture for a few minutes longer if you observe suboptimal results.
6. It's recommended to use the heated PlantOpsis™ DirectPCR-A + sample mixture for downstream applications within a day, although samples may be stable for months at 4°C or -20°C.

## 07 CONTACT

Contact our research team if assistance with PlantOpsis™ DirectPCR-A is necessary ([info@entopsis.com](mailto:info@entopsis.com)). We will try our best to assist with non-intended applications of this product or direct you to alternative products.



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PlantOpsis™ DirectPCR-A

