InstaGene™ Matrix

Catalog #
732-6030

BIO-RAD

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Section 1. Introduction

1.1 Contents and Storage

This bottle contains 20 ml of 6% InstaGene matrix and a magnetic stirbar. This is sufficient for 100 DNA preparations. Upon arrival, store the matrix at 4 °C.

1.2 Warning

Avoid prolonged exposure of the matrix to UV light.

1.3 Use

InstaGene matrix allows fast and easy preparation of PCR* amplifiable DNA by eliminating labor intensive phenol/chloroform extraction steps. A simple cell lysis step by boiling in the presence of the matrix is sufficient. This is possible because the matrix efficiently absorbs cell lysis products that interfere with the PCR amplification process. Procedures for generating DNA suitable for PCR from whole blood, cultured cells, and bacteria using InstaGene matrix are described on the following pages. Protocols for other types of tissues or cells are presently being investigated.

Section 2. Instruction for Use

2.1 DNA Preparation From Whole Blood

The protocol described below is for whole blood samples that are frozen, refrigerated, or collected fresh.

1. Add 3–6 µl of whole blood to 1 ml of autoclaved nanopure water in a 1.5 ml microfuge tube. Mix by inverting the tube several times.
2. Incubate the tube at room temperature for 15–30 minutes.
3. Spin at 10,000–12,000 rpm for 2–3 minutes.
4. Carefully remove all but 20–30 µl of the supernatant. Do not disturb the pellet.
5. Add 200 µl of InstaGene matrix to the pellet and incubate at 56 °C for 15–30 minutes.

   NOTE: InstaGene matrix should be mixed at moderate speed on a magnetic stirrer to maintain the matrix in suspension. The pipet tip used should have a large bore, such as a 1,000 µl pipet tip (Bio-Rad's TBR-78 tip, catalog # 223-9378).
6. Vortex at high speed for 10 seconds. Place the tube in a 100 °C heat block or boiling waterbath for 8 minutes.
7. Vortex at high speed for 10 seconds. Spin at 10,000–12,000 rpm for 2–3 minutes.
8. Use 20 µl of the resulting supernatant per 50 µl PCR reaction. Store the remainder of the supernatant at -20 °C. Repeat step 7 when reusing the InstaGene DNA preparation.

   NOTE: It is important to store the prepared sample at -20 °C.

   NOTE: For more efficient DNA preparation from whole blood, the AquaPure™ Genomic DNA Blood Kit (catalog # 732-6345) is recommended.

2.2 DNA Preparation From Cultured Mammalian Cells

1. Pellet 200 µl of cell suspension from media in a microfuge tube. Spin at 10,000–12,000 rpm for 1 minute and remove the supernatant.
2. Resuspend cells in 1 ml of 1x PBS and centrifuge for 1 minute at 10,000–12,000 rpm.
3. Resuspend cells in autoclaved water at 20–30 cells/µl.
4. Add 20 µl of this cell suspension to 200 µl of InstaGene matrix. Incubate at 56 °C for 15–30 minutes.
   NOTE: InstaGene matrix should be mixed at moderate speed on a magnetic stirrer to maintain the matrix in suspension. The pipet tip used should have a large bore, such as a 1,000 µl pipet tip (Bio-Rad's catalog # 223-9378).
5. Vortex at high speed for 10 seconds. Place the tube in a 100 °C heat block or boiling waterbath for 8 minutes.
6. Vortex at high speed for 10 seconds. Spin at 10,000–12,000 rpm for 2–3 minutes.
7. Use 20 µl of the resulting supernatant per 50 µl PCR reaction. Store the remainder of the supernatant at -20 °C. Repeat step 6 when reusing the InstaGene DNA preparation.
   NOTE: It is important to store the prepared sample at -20 °C.

2.3 DNA Preparation From Bacteria

The protocol described below is for the preparation of genomic DNA or episomal DNA from bacteria.

1. Pick an isolated bacterial colony and resuspend it in 1 ml of autoclaved water in a microfuge tube.
2. Centrifuge for 1 minute at 10,000–12,000 rpm. Remove the supernatant.
3. Add 200 µl of InstaGene matrix to the pellet and incubate at 56 °C for 15–30 minutes.

   NOTE: InstaGene matrix should be mixed at moderate speed on a magnetic stirrer to maintain the matrix in suspension. The pipet tip used should have a large bore, such as a 1,000 µl pipet tip (Bio-Rad's catalog # 223-9378).
4. Vortex at high speed for 10 seconds. Place the tube in a 100 °C heat block or boiling waterbath for 8 minutes.
5. Vortex at high speed for 10 seconds. Spin at 10,000–12,000 rpm for 2–3 minutes.
6. Use 20 µl of the resulting supernatant per 50 µl PCR reaction. Store the remainder of the supernatant at -20 °C. Repeat step 5 when reusing the InstaGene DNA preparation.

   NOTE: It is important to store the prepared sample at -20 °C.

** The polymerase chain reaction (PCR) process is covered by U.S. patent numbers 4,683,195, 4,683,202, and 4,899,818 which are owned by Hoffman-La Roche, Inc. and F. Hoffman- La Roche, Ltd. The purchase of this product does not convey a license to use the process covered by these patents. The user of this product to perform PCR must obtain a license from Hoffman-La Roche, Inc.*

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