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Nest 402301

Nest Scientific 96 Well PCR Plate User Manual

Model: 402301

1. INTRODUCTION

The Nest Scientific 402301 96 Well PCR Plate is a high-quality laboratory consumable designed for Polymerase Chain Reaction (PCR) applications. These semi-skirted plates are engineered for compatibility with a wide range of major PCR machines, ensuring reliable performance in molecular biology workflows. Manufactured from high-quality polypropylene, they are designed to minimize sample loss and protein absorption, making them suitable for sensitive assays.

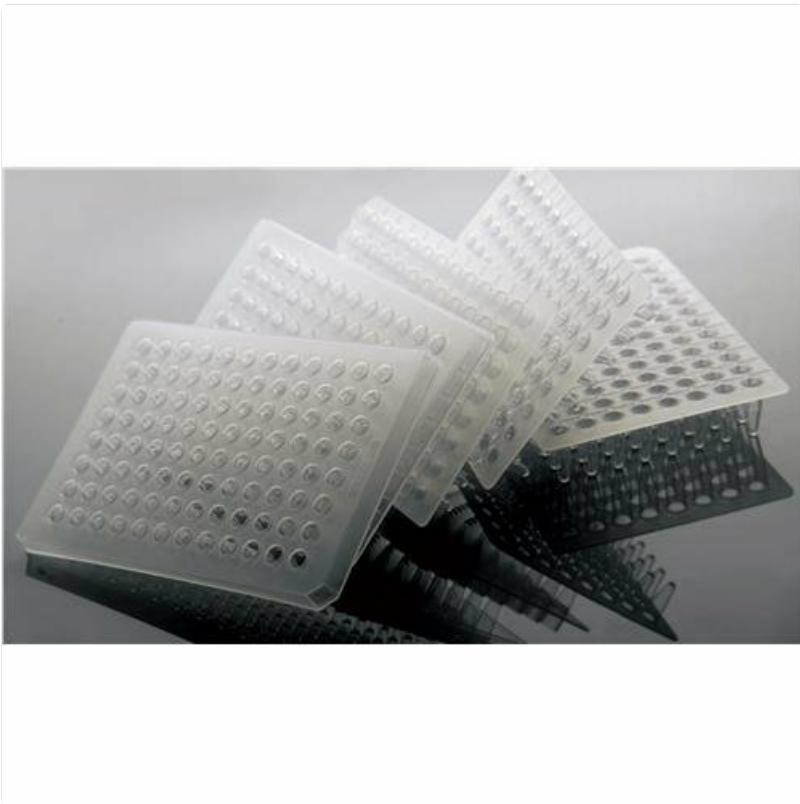


Figure 1: Nest Scientific 96 Well PCR Plate, showing multiple plates stacked. These clear plates feature 96 individual wells arranged in an 8x12 grid, designed for efficient sample processing in PCR applications.

2. KEY FEATURES

- **High Quality Polypropylene Material:** Guarantees low protein absorption and minimal sample loss, crucial for sensitive PCR reactions.
- **Semi-Skirted Design:** Ensures compatibility with a broad range of PCR thermal cyclers and automated systems.
- **Clear Wells:** Allows for easy visual inspection of samples.
- **Autoclavable:** Can be sterilized using standard autoclaving procedures, ensuring sterility for sensitive applications.
- **Optimal for PCR:** Specifically designed to meet the demands of PCR, including thermal stability and uniform heat transfer.

3. SETUP AND PREPARATION

Proper handling and preparation are essential for optimal performance and to prevent contamination.

1. **Unpacking:** Carefully remove the PCR plates from their packaging. Handle plates by the edges to avoid touching the well surfaces.
2. **Inspection:** Visually inspect each plate for any signs of damage or defects before use. Do not use damaged plates.
3. **Sterilization (if required):** Although manufactured under controlled conditions, if additional sterilization is required for your application, the plates are autoclavable. Follow standard autoclaving protocols (e.g., 121°C for 15-20 minutes).
4. **Environment:** Perform all setup procedures in a clean, contamination-free environment, such as a laminar flow hood, especially when working with sensitive molecular samples.

4. OPERATING INSTRUCTIONS

These PCR plates are designed for use with standard laboratory equipment for PCR and related applications.

1. **Sample Loading:** Carefully pipette samples and reagents into the wells. Ensure that the volume does not exceed the well capacity to prevent cross-contamination or spillage.
2. **Sealing:** After loading, seal the plate securely using appropriate sealing film, foil, or cap strips. Proper sealing is critical to prevent evaporation and contamination during thermal cycling. Ensure a tight seal across all wells.
3. **Thermal Cycling:** Place the sealed PCR plate into a compatible thermal cycler. Ensure the plate is seated correctly in the block. Follow the thermal cycler's operating instructions and your specific PCR protocol.
4. **Post-PCR Handling:** After thermal cycling, remove the plate from the cycler. Samples can then be processed further (e.g., gel electrophoresis, sequencing) or stored appropriately.

5. MAINTENANCE AND STORAGE

Proper maintenance and storage ensure the integrity and performance of the PCR plates.

- **Cleaning:** PCR plates are typically single-use and disposable. Do not attempt to clean and reuse plates, as this can lead to contamination and compromised experimental results.
- **Storage:** Store unused plates in their original, sealed packaging in a clean, dry environment at room temperature (15-30°C). Protect from direct sunlight and extreme temperatures.
- **Disposal:** Dispose of used PCR plates according to local laboratory waste disposal guidelines, especially if they contain biological or hazardous materials.

6. TROUBLESHOOTING

While PCR plates are passive components, issues can arise from improper handling or storage.

Problem	Possible Cause	Solution
Evaporation/Sample Loss	Improper sealing of the plate; damaged sealing film/foil; incorrect thermal cycler lid pressure.	Ensure sealing film/foil is applied firmly and evenly across all wells. Verify thermal cycler lid is properly closed and applying adequate pressure. Use high-quality sealing materials.
Contamination	Non-sterile handling; exposure to airborne contaminants; reuse of plates.	Always work in a clean, sterile environment (e.g., laminar flow hood). Use fresh, sterile plates for each experiment. Avoid exposing plates to open air for extended periods.
Plate Warping/Deformation	Exposure to extreme temperatures during storage or cycling; physical stress.	Store plates in their original packaging at recommended room temperature. Ensure thermal cycler block is clean and free of debris, allowing the plate to sit flat.

7. SPECIFICATIONS

Attribute	Detail
Model Number	402301
Well Format	96-well (8x12 configuration)
Well Volume	0.2 mL
Plate Type	Semi-Skirted PCR Plate
Material	High Quality Polypropylene
Color	Clear
Autoclavable	Yes
Manufacturer	Nest Biotechnology
ASIN	B0177QWTJO
Package Quantity	25 per Pack, 100 per Case

8. WARRANTY AND SUPPORT

Information regarding specific product warranty and customer support for the Nest Scientific 402301 96 Well PCR Plate is not provided within this manual. For warranty details, technical support, or further inquiries, please contact Nest Scientific directly or refer to their official website. Contact information can typically be found on the product packaging or the manufacturer's official online resources.

