



Best Practices

PCR PLATES

Neptune offers an expansive line of 96-well PCR plates. Whether using the full profile, low profile, fully skirted, or semi-skirted plates, Neptune the rigorous quality standards of this product line ensure peak performance in even the most sensitive of PCR assays. To ensure that these products perform as well in your hands as they do in ours, we've outlined some best practices for using PCR plates in the lab.

Compatibility

PCR plates from Neptune are molded from medical grade, high performance polypropylene and feature uniform thin-walls for superior heat transfer. The many options of plate styles (full profile, low profile, fully skirted and semi-skirted) means broader compatibility with the leading thermocyclers on the market. Good block-well contact is important for efficient thermocycling reactions, so be sure to refer to the PCR plate compatibility chart in the Neptune Product Catalog or on www.neptunescientific.com when considering your plate. Also, be sure to check the heated lid of your system. Many thermocyclers come with heated lids with adjustable heights, so make sure that yours is set to optimize the seal and avoid the effects of condensation within the plate.

Product Handling

Neptune PCR plates are made of virgin polypropylene and have a long shelf life when properly stored. Maintaining room temperature storage, away from prolonged sun exposure, will help prevent the tubes from becoming brittle and yellow over time. Maintain a First In, First Out (FIFO) process for plate inventory.

When assembling your PCR, do so in a separated area. Always use aerosol barrier pipette tips and be sure to use a new tip every time you touch your stock solution and reagents to avoid cross-contamination. Use the appropriate plate sealing tape for your application to reduce evaporation during cycling.

Avoiding Contamination

Neptune PCR plates are manufactured and tested to ensure the highest level of purity. Because they are certified as RNase, DNase, DNA, and endotoxin-free, it is not necessary to autoclave the plates before use. In fact, there have been several published reports where autoclaves have introduced contamination to products, particularly in busy labs that share the same autoclave. Additionally, autoclaving PCR plates may result in product warpage, which may impact fit and compatibility in your thermocycler.

When assembling your PCR, do so in a separate "Pre-PCR" area and always wear fresh gloves when handling products. Always use aerosol barrier pipette tips and be sure to use a new tip every time you touch your stock solution and reagents to avoid cross-contamination. Use the appropriate plate sealing tape for your application to reduce evaporation during cycling. After cycling, always perform a quick spin of the plate to pull down condensation and prevent cross contamination when removing the sealing tape.