Product Summary

Optima DTR™ 96-Well Plates

PRODUCT	CATALOG #	PURIFICATIONS
Optima DTR 96-Well Plates (2 Plates)	45637	192
Optima DTR 96-Well Plates (10 Plates)	17946	960

Description

Optima DTR (**D**ye **T**erminator **R**emoval) 96-Well Plates are gel filtration plates that consist of 440 µL volume columns in a standardized array. This plate provides optimal performance for removal of unincorporated BigDye® v3.0 and v3.1 and other dye terminators, dNTPs, salts, and other low molecular weight materials from sequencing reactions. These columns also remove DNA primers and fragments up to 15 bases, buffers, and nucleotides labeled with biotin, isotopes, and other assorted markers.

The columns are pre-packed with a fully hydrated matrix to afford optimal handling and performance characteristics. To minimize the potential for interference with sequencing applications, no preservatives, salts, or buffers are used in the preparation of these columns. Both ends of the Optima DTR 96-Well Plates are sealed to prevent drying.

The sample can be spun directly into the ABI PRISM MicroAmp® Optical 96 Well Reaction Plate or equivalent (96-Well Semi-Skirted Capillary Plates) thereby saving a transfer step.

COMPONENT	45637	17946
Optima DTR 96-Well Plate	2 plates (2x PN 4050345)	10 plates (10x PN 4050345)
96-well Plate Lids	2 lids (PN 4050094)	10 lids (2x 4050095)
96-Well Waste Plates	2 plates (PN 4050096)	10 plates (2x PN 4050097)
96-Well Semi-Skirted Capillary Plates	2 plates (PN 4050206)	10 plates (2x PN 4050205)

Equipment and Materials Required

1. Variable speed centrifuge (benchtop or floor model)
2. Rotor and microplate carriers for above.

Storage Condition

Store at +4°C. Do not freeze.

Quality Control

Field-tested for sequence quality and sequencing accuracy on capillary sequencers.

Recommended Protocol for 5 µL–15 µL Sequencing Reaction Volumes

1. Bring reaction volume to at least 10 µL with distilled water before adding to the 96-Well Plate.
2. Remove the bottom and top adhesive tapes from a 96-Well Plate. Cover with lid.
   - Note: Remove the bottom adhesive tape first.
   - Ensure that the plate remains horizontal to avoid losing any gel.
3. Stack the 96-Well Plate on top of a 96-well waste plate. Place assembly on a cushioned centrifuge carrier.
4. Centrifuge for 3 minutes at 850 x *g*.[1] Discard eluate.
   - See “Additional Notes” for determination of RPM from RCF or visit our website at www.edgebio.com and click on Technical Support.
5. Transfer the reaction samples in a volume of 10–15 µL to the center of each well in the 96-Well Plate. Pipet slowly. Do not touch the sides of the wells. Cover with lid.
6. Stack the 96-Well Plate on top of a 96 well Semi-Skirted Capillary Plate. Place the assembly on cushioned centrifuge carrier.
7. Centrifuge for 5 minutes at 850 x *g*. Retain eluate.
   - The eluate contains purified sample ready for loading on sequencers.
   - Note: Consult the instrument manufacturer’s recommendation for sample handling.

Additional Notes

1. Conversion of RCF to RPM Calculation:

   An accurate determination of the centrifugation speed is very important. The relative centrifugal force (RCF) specified in the protocol is converted to revolutions per minute (RPM) using the following formula:

$$RCF = 1.12r\left(\frac{RPM}{1000}\right)^2$$

   The radius, r, is equal to the distance in millimeters between the axis of rotation and the bottom of the gel bed when the plate is placed in the plate carrier in the centrifuge bucket.

   After measuring the radius for the specific centrifuge and accessories to be used, the proper RPM setting is calculated as follows:

$$RPM = 1000\sqrt{\frac{RCF}{1.12r}}$$

   To achieve RCF = 850 *x g*:

$$RPM = 27{,}549\sqrt{\frac{1}{r}}$$

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