EdgeBio

Product Summary

Optima DTR™ 384-Well Plate Kits

PRODUCT	CATALOG #	PURIFICATIONS
Optima DTR 384-Well Plate Kit (2 Plates)	45312	768
Optima DTR 384-Well Plate Kit (10 Plates)	17455	3,840

Description

Optima DTR (**D**ye **T**erminator **R**emoval) 384-Well Plates are gel filtration plates that consist of 100 µL volume columns in a standardized array. This plate provides optimal performance for removal of unincorporated BigDye® v1.1, 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 20 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 or buffers are used in the preparation of these columns. Both ends of the Optima DTR 384-Well Plates are sealed to prevent drying.

The sample can be spun directly into the EdgeBio 384-Well Semi-Skirted Capillary Plates, PN 44172 (50 plates) or ABI PRISM MicroAmp® Optical 384-Well Reaction Plate, thereby saving a transfer step.

COMPONENT	45312	17455
Optima DTR 384-Well Plate	2 plates (2x PN 4050347)	10 plates (10x PN 4050347)
384-Well Plate Lids	2 lids (PN 4050352)	10 lids (2x 4050353)
12-Column Waste Plates	2 plates (PN 4050351)	10 plates (2x PN 4050349)
384-Well Semi-Skirted Capillary Plates	2 plates (PN 4050350)	10 plates (2x PN 4050348)

Equipment and Materials Required

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

Storage Condition

Store at +4ºC. Do not freeze. See product label for expiration date.

Quality Control

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

Recommended Protocol for 5 µL–10 µL Sequencing Reaction Volumes

1. Bring reaction volume to at least 5 µL with distilled water before adding to the Optima DTR 384-Well Plate.
2. Remove the bottom and top adhesive tapes from the Optima 384-Well Plate. Cover with Universal Plate Lid.
   - Note: Remove the bottom adhesive tape first.
   - Ensure that the plate remains horizontal to avoid losing any gel.
3. Stack the Optima 384-Well Plate on top of a 12-Column waste plate. Place assembly on a cushioned centrifuge carrier.
4. Centrifuge for 3 minutes at 500 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 Support.
5. Transfer the reaction samples in a volume of 5–10 µL to the center of each well in the Optima 384-Well Plate. Pipet slowly. Do not touch the sides of the wells. Cover with lid.
6. Stack the Optima 384-Well Plate on top of a 384-Well Semi-Skirted Capillary Plate. Place the assembly on cushioned centrifuge carrier.
7. Centrifuge for 5 minutes at 600 x *g*. Retain eluate.
   - The eluate in the Semi-Skirted Capillary Plate contains purified sample and can be loaded directly into the DNA sequencing instrument.
   - Note: Consult the instrument manufacturer's recommendation for sample handling.

Visit the EdgeBio YouTube channel for an **Optima DTR product tutorial**.

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*:

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

Visit the EdgeBio YouTube channel for an **RCF to RPM Conversion tutorial**.

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