



# DNA Gel Extraction Kit

**DNA Extraction From Agarose Gels,  
Range: 100 - 10,000 bp DNA**

Catalogue Number LSKG EL0 50

## Introduction

One of the most useful techniques in functional genomics labs is the ability to separate a number of DNA fragments by electrophoresis through an agarose gel, then extract one or more individual DNA fragments from agarose gel slices for subsequent applications such as cloning, sequencing, or radioisotopic labeling.

The Montage DNA Gel Extraction Kit contains a centrifugal filter device (Montage DNA Gel Extraction Device) designed to extract DNA fragments that are 100 to 10,000 bp in size from agarose gel slices in one 10-minute spin. In addition, the kit contains a modified TAE buffer that allows the casting and running of the gel from which the DNA fragment is to be extracted. The modified TAE buffer is formulated with a lower concentration of EDTA than standard TAE in order to minimize any interference by the EDTA on enzyme activity required for downstream applications.

## Introduction, continued

DNA extracted with this kit requires no further purification for use in cloning and radioisotopic or fluorescent DNA sequencing. Due to the high resolving power of agarose gel electrophoresis, the small and large non-specific amplification products that frequently interfere with cloning and sequencing after PCR\* are completely removed from your product.

\*PCR (polymerase chain reaction) is covered by U.S. and other equivalent patents issued to Hoffman-La Roche, Inc.

## Kit Components

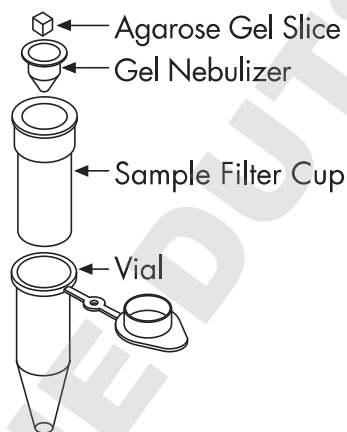
<b>Component</b>	<b>Qty/pk</b>
Pre-assembled Montage DNA Gel Extraction three-part device: Gel nebulizer, sample filter cup (0.45 $\mu$ m Durapore <sup>®</sup> ), and microcentrifuge filtrate vials	50 units
50 $\times$ modified TAE buffer concentrate in 500 mL bottle. Ready to dilute to 1x and use.	1 bottle
50 $\times$ concentration = 2M Tris-acetate, 5 mM Na <sub>2</sub> EDTA, pH 8.0	

## Additional Materials Required

SeaKem<sup>®</sup> LE agarose (FMC BioProducts, Rockland, ME) or equivalent.

## Procedure for Extracting DNA from Agarose Gels

1. Electrophorese the DNA of interest (restriction digest or PCR product or other DNA) through a <math><1.25\%</math> agarose gel (containing  $0.5 \mu\text{g}/\text{mL}$  ethidium bromide) that is cast and run in  $1\times$  Modified TAE buffer (prepared from the stock  $50\times$  described above).
2. Locate the DNA band of interest in the gel using a long-wavelength UV lamp or a transilluminator. Cut and excise the gel slice containing the DNA. The gel slice must be under  $100 \mu\text{L}$  in volume or  $100 \text{mg}$  in mass.
3. Make sure the Montage DNA Gel Extraction Device is assembled as follows:



4. Place the gel slice in the Gel Nebulizer and seal the device with the cap attached to the vial.
5. Spin the assembled device for 10 minutes at  $5,000 \times g$ . Centrifugation forces the agarose through the Gel Nebulizer, converting it into a fine slurry that is captured by the Sample Filter Cup. The extruded DNA passes (in TAE buffer) through the microporous membrane in the Sample Filter Cup and is collected in the filtrate vial.
6. Discard the Sample Filter Cup and Gel Nebulizer units. The purified DNA in the vial is now ready for sequencing, radiolabeling, or cloning procedures without further purification.

## Buffer Dilution

The enclosed 50× concentrate of modified TAE buffer is ready for dilution and use.

To dilute to a 1× working solution, add 1 part of the 50× concentrate to 49 parts of nuclease-free water.

The concentration of the diluted 1× working solution is 40 mM Tris-Acetate, pH 8.0, 0.1 mM Na<sub>2</sub>EDTA.

### Notes:

- Low melting point agarose is not compatible with this protocol.
- We recommend modified TAE rather than TBE for the following reasons:
  - (1) TBE buffer strongly inhibits DNA sequencing reactions while modified TAE buffer does not.
  - (2) Modified TAE has 0.1 mM Na<sub>2</sub>EDTA while standard TAE has 1.0 mM Na<sub>2</sub>EDTA. A 0.1 mM Na<sub>2</sub>EDTA will not interfere with the magnesium concentration required for downstream enzymatic reactions

## Technical Assistance

For more information, contact the Millipore office nearest you. In the U.S., call **1-800-MILLIPORE** (1-800-645-5476). Outside the U.S., see your Millipore catalogue for the phone number of the office nearest you or go to our web site at [www.millipore.com/offices](http://www.millipore.com/offices) for up-to-date worldwide contact information. You can also visit the tech service page on our web site at <http://www.millipore.com/techservice>.

## Standard Warranty

**Millipore Corporation** (“Millipore”) warrants its products will meet their applicable published specifications when used in accordance with their applicable instructions for a period of one year from shipment of the products. **MILLIPORE MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED. THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** The warranty provided herein and the data, specifications and descriptions of Millipore products appearing in Millipore’s published catalogues and product literature may not be altered except by express written agreement signed by an officer of Millipore. Representations, oral or written, which are inconsistent with this warranty or such publications are not authorized and if given, should not be relied upon.

In the event of a breach of the foregoing warranty, Millipore’s sole obligation shall be to repair or replace, at its option, the applicable product or part thereof, provided the customer notifies Millipore promptly of any such breach. If after exercising reasonable efforts, Millipore is unable to repair or replace the product or part, then Millipore shall refund to the customer all monies paid for such applicable product or part. **MILLIPORE SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR ANY OTHER INDIRECT DAMAGES RESULTING FROM ECONOMIC LOSS OR PROPERTY DAMAGE SUSTAINED BY ANY CUSTOMER FROM THE USE OF ITS PRODUCTS.**

P36452, Rev. A, 05/02

Millipore and Durapore are registered trademarks of Millipore Corporation.

Montage is a trademark of Millipore Corporation.

SeaKem is a registered trademark of FMC Corporation or an affiliated company.

©2002, Millipore Corporation, Bedford, MA.

**MILLIPORE**