

## Product Insert

# 5kb MegaLadder

Research Use Only

### DESCRIPTION

The 5Kb MegaLadder is a molecular-weight marker containing approximately 30 bands spaced with a 5Kb increment (5Kb - 150Kb) with a brighter band at 40Kb. Pulse Field Inversion Electrophoresis is recommended for superior resolution of fragments above 30Kb.

### FEATURES

- Each band is an exact multiple of 5Kb;
- Supplied with 6x sample loading buffer;
- No agarose blocks for PFI electrophoresis required.
- 40Kb band has highest intensity.

### APPLICATIONS

- High molecular-weight DNA sizing
- Suitable for both conventional and field-inversion electrophoresis

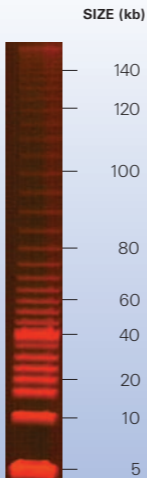
### CONTENT & COMPOSITION

Vial with 5Kb MegaLadder DNA in buffer containing 25mM Tris-HCl, 5mM EDTA, 50% Glycerol, pH 8.0.

Vial with 6x Sample Loading Buffer: 0.5ml of 15% (w/v) Ficoll 400, 0.06% (w/v) Bromophenol Blue, 30mM EDTA-Tris, pH 8.0.

Concentration: 0.25 $\mu$ g/ $\mu$ l

# 5Kb MegaLadder



1.0 $\mu$ g of 5kb DNA Ladder. 0.5 x TBE, 1% agarose, gel length 18cm.  
Forward pulse 11 v/cm, 2 sec; Reverse pulse 1.5 v/cm, 6 sec. The separation of migration illustrated here was achieved after 20 hours.

PACK SIZE	DNA AMOUNT	CAT NO.	PRESENTATION
50 lanes (0.5 $\mu$ g per lane)	25 $\mu$ g	BIO-33037	1 x 100 $\mu$ l
200 lanes (0.5 $\mu$ g per lane)	100 $\mu$ g	BIO-33038	4 x 100 $\mu$ l

## DIRECTIONS OF USE

Mix with very gentle shaking or pipetting (not vortexing):  
2 $\mu$ l (0.5 $\mu$ g total, or 10-20ng/band)<sup>1</sup> of Ladder,  
3 $\mu$ l (1/6 of final volume) of 6x Loading Buffer provided,  
13 $\mu$ l of electrophoresis buffer (0.5x TAE or 0.5xTBE)  
18 $\mu$ l total volume<sup>2</sup>

Adjustments should be made for different well-sizes and individual preferences.

Load solution into the well<sup>3</sup>; try to substitute entire volume of electrophoresis buffer in the well.

We recommend the following electrophoresis conditions:  
0.5-0.9% agarose gel for **standard electrophoresis** for 12-36h at 0.1-0.3 V/cm of gel, 0.8-1.0% agarose for **PFI electrophoresis** for 12-24h at forward pulse 11V/cm for 1-3s, reverse pulse 1.5 V/cm for 1-8s. Buffer - 0.5xTBE (0.5xTAE can also be used).

## STORAGE CONDITIONS

For long-term storage store at  $-20^{\circ}\text{C}$  (12 months)

For short-term storage store at  $+4^{\circ}\text{C}$  (3 months)

Prior to dilution, multiple freeze/thaw cycles will not affect the quality of product. Once diluted, 5Kb MegaLadder must not be frozen since high molecular weight DNA will degrade.

Shipping: at  $-20^{\circ}\text{C}$  (on top of dry ice);  $+4^{\circ}\text{C}$ ; or at ambient temperature with overnight carrier.

## NOTES

1.  $2\mu\text{l}$  or  $0.5\mu\text{g}$  per lane of Ladder is recommended.  
Do not apply more than  $1.2\mu\text{g}$  per lane.
2. 5Kb MegaLadder diluted with 6x Loading Buffer and electrophoresis buffer can be stored in fridge for several days.
3. Preferably the well should be less than 1mm in thickness, app. 5mm wide, and 3-5mm deep.
4. 6x Sample Loading Buffer can be used both for Ladder, and for DNA samples.
5. For highly accurate size-determination we recommend to electrophorese sample and ladder in the same well, mixing prior to loading.

