



For research use only

ISO9001

1Kbp DNA Ladder Marker, Ready-to-use

Product	Conc.	Cat. No.	Remarks
1Kbp DNA Ladder Marker, Ready-to-use	1 ml (50 µg/ml)	EBM-1002	Ready-to-use

Description

The 1Kbp DNA ladder marker is a mixture of double-stranded DNA fragments for determining the exact size of DNA fragments. The 1Kbp DNA ladder marker consists of 9 DNA fragments ranging in size from 500 to 10,000 bp. For easy size reference on the gel electrophoresis, the 5,000 bp is three times more brighter than the other bands. The 1Kbp DNA ladder marker is supplied in a ready-to-use format. This ladder marker can be stained by ethidium bromide or any other known DNA staining methods.

Storage Buffer

- Marker DNA : 50 µg in 1 ml of 10 mM Tris-HCl, pH8.0, 1 mM EDTA, 5% Glycerol, 0.005% Bromophenol Blue, and 0.005% Xylene Cyanol

Recommended Storage Condition

- -20°C for 2 year
- 4°C for 6 months
- Room temperature (20-25°C) for 2 months

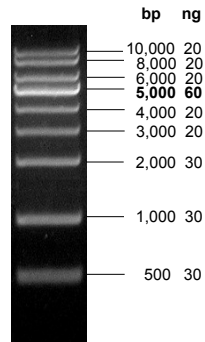
Usage Information

- Concentration : 250 ng/5 µl (50 µg/ml)
- Recommended loading : 5-10 µl (100-200 lanes, ready-to-use)
- Range : 500 - 10,000 bp
- Number of bands : 9

Cautions

- Always use the fresh tip to take out marker solution.
(If you do not, trace amount of contaminated DNases from buffer tank may degrade marker DNA rapidly)
- Don't boil the product.
- Use appropriate % of gels for separation of 500 to 10,000 bp sizes
(0.5 to 1.5% agarose gel is recommended)
- Confirm that the concentration of DNA staining dye is optimal before use.
(Breakage or suboptimal concentration of ethidium bromide in gel is a main cause of low estimation of marker concentration or your DNA. 5 ng of DNA should be seen in normal condition)
- Loading volume and concentration should be optimized by gel size, well size, and running length.

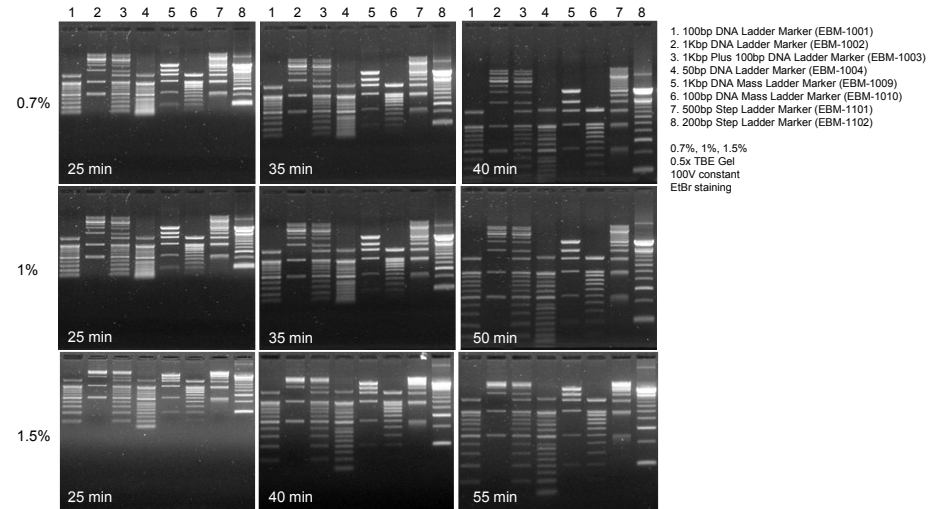
1Kbp DNA Ladder Marker



5 µl/250 ng/lane ;

0.7% agarose in 0.5x TAE, stained with ethidium bromide

Migration Patterns in Different % of Agarose Gels



Recommended Gel Percentages for Separation of Linear DNA

Agarose Gel, %	Range of Separation, bp	Polyacrylamide Gel, %	Range of Separation, bp
0.5	1,000 - 30,000	3.5	100 - 1,000
0.7	800 - 12,000	5	80 - 500
1	500 - 10,000	8	60 - 400
1.2	400 - 7,000	12	40 - 200
1.4	200 - 4,000	20	5 - 100
2	50 - 2,000		

DNA Size Migration with Sample Loading Dyes

Agarose Concentration, %	Xylene cyanol FF	Bromophenol blue	Orange G
0.7 - 1.7	~4000 bp	~300 bp	~50 bp
2.5 - 3.0	~800 bp	~100 bp	~30 bp

Composition of Gel Electrophoresis Buffers

Buffer	Working Concentration		Stock Concentration (per Liter)		
Tris-acetate (TAE)	1x	20 mM Tris-acetate	20x	Tris base	96.9 g
		1 mM EDTA		Glacial acetic acid	22.84 ml
Tris-borate (TBE)	0.5x	45 mM Tris-borate	10x	0.5 M EDTA (pH8.0)	40 ml
		1 mM EDTA		Tris base	108 g
				Boric acid	55 g
				0.5 M EDTA (pH8.0)	40 ml