



For research use only

ISO9001

1Kbp DNA Ladder Marker, Concentrated

Product	Conc.	Cat. No.	Remarks
1Kbp DNA Ladder Marker, Ready-to-use	250 µl (50 µg)	EBM-1002C	Concentrated type in TE buffer

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. This ladder marker can be stained by ethidium bromide or any other known DNA staining methods.

The 50 µg of marker DNA is contained in 250 µl TE buffer. Before start, optimal concentration and loading volume should be empirically determined by users to get the best result. This product is supplied with 1 ml of 6x gel loading buffer to dilute marker DNA.

Storage Buffer

- Marker DNA : 50 µg in 250 µl TE buffer
- 6x Gel loading buffer : 60 mM Tris-HCl, pH8.0, 6 mM EDTA, 30% Glycerol, 0.03% Bromophenol Blue, and 0.03% Xylene Cyanol

Recommended Storage Condition

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

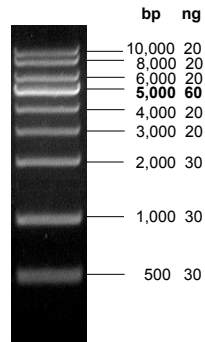
Usage Information

- Recommended loading : 100-500 ng/well according to the gel size, well size, and running length.
- Range : 500 – 10,000 bp
- Number of bands : 9

Cautions

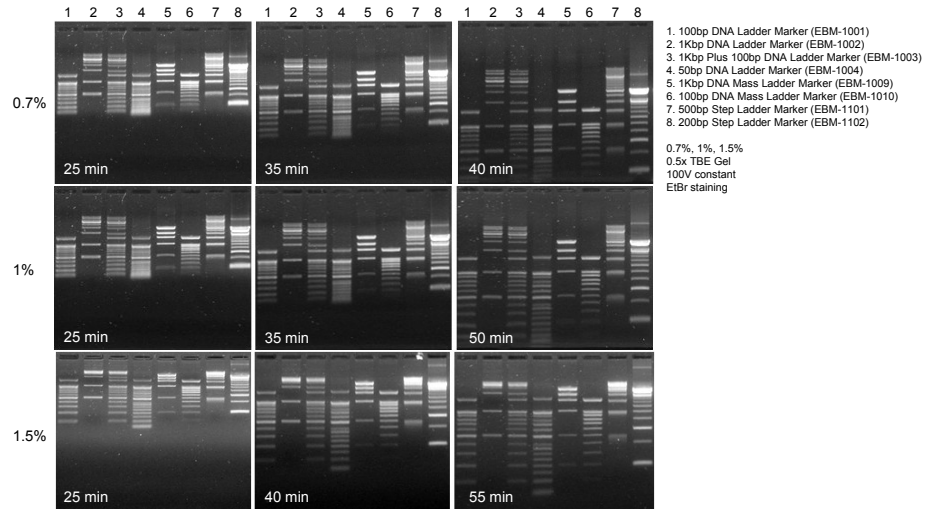
- Always use the fresh tip to take out marker solution.
(If you do not, trace amount of contaminated DNases from buffer tank may degrade marker DNA rapidly)
- Don't boil the product.
- Use appropriate % of gels for separation of 500 to 10,000 bp sizes
(0.5 to 1.5% agarose gel is recommended)
- Confirm 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



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 1 mM EDTA	10x	0.5 M EDTA (pH8.0)	40 ml
				Tris base	108 g
				Boric acid	55 g
				0.5 M EDTA (pH8.0)	40 ml