Low Molecular Weight DNA Ladder

1-800-632-7799
info@neb.com
www.neb.com

N3233S 009130215021

N3233S

100 gel lanes (50 µg) **Lot: 0091302 Exp: 2/15**

500 µg/ml **Store at –20°C**

1.5 ml Gel Loading Dye, Blue (6X) **Store at 25°C**

Description: A proprietary plasmid is digested to completion with appropriate restriction enzymes to yield 11 bands suitable for use as molecular weight standards for both agarose and polyacrylamide gel electrophoresis. This digested DNA includes fragments ranging from 25–766 base pairs. The 200 base pair band has increased intensity to serve as a reference point.

Supplied in: 10 mM Tris-HCl (pH 8.0), 1 mM EDTA.

Reagents supplied:
6X Gel Loading Dye, Blue

1X Gel Loading Dye, Blue:
2.5% Ficoll-400
11 mM EDTA
3.3 mM Tris-HCl (pH 8.0@25°C)
0.017% SDS
0.015% bromophenol blue

Preparation: Double-stranded DNA is digested to completion with the appropriate restriction enzymes, phenol extracted, ethanol precipitated and equilibrated to 10 mM Tris-HCl (pH 8.0) and 1 mM EDTA.

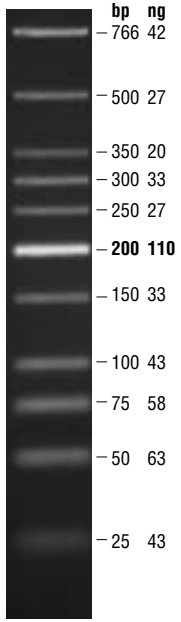
Usage Recommendation: We recommend loading 0.5 µg of the Low Molecular Weight DNA Ladder diluted in sample buffer. This ladder was not designed for precise quantification of DNA mass but can be used for approximating the mass of DNA in comparably intense samples of similar size. The approximate mass of DNA in each of the bands in our Low Molecular Weight DNA Ladder is as follows (assuming a 0.5 µg loading):

Fragment	Base Pairs	DNA Mass
1	766	42 ng
2	500	27 ng
3	350	20 ng
4	300	33 ng
5	250	27 ng
6	**200**	**110 ng**
7	150	33 ng
8	100	43 ng
9	75	58 ng
10	50	63 ng
11	25	43 ng

Notes: All ends have 5´ overhangs that can be end labeled using T4 Polynucleotide Kinase (NEB #M0201) or filled-in using DNA Polymerase I, Klenow Fragment (NEB #M0210) (1). Use α–[^{32}P] dCTP or α-[^{32}P] dGTP for the fill-in reaction.

DNA ladders are stable for at least 3 months at 4°C.

For long term storage, store at –20°C. If samples need to be diluted, use TE or other buffer of minimal ionic strength. DNA may denature if diluted in dH_2O.



LMW DNA Ladder visualized by ethidium bromide staining on a 1.8% TBE agarose gel. Mass values are for 0.5 µg/lane.

(see other side)

CERTIFICATE OF ANALYSIS

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LMW DNA Ladder visualized by ethidium bromide staining on a 1.8% TBE agarose gel. Mass values are for 0.5 µg/lane.

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CERTIFICATE OF ANALYSIS

Due to the limitations of the acrylamide gel technology, one or two extra bands may be visible on the DNA ladders when run on a polyacrylamide gel.

Suggested protocol for loading a sample:

The following protocol is recommended for a 5 mm wide lane.

1. Prepare loading mixture:

Distilled water	4 µl
6X Blue Loading Dye	1 µl
DNA Ladder	1 µl
Total volume	6 µl

2. Mix gently
3. Load onto the agarose gel

Note: The components of the mixture should be scaled up or down, depending on the width of the agarose gel.

Reference:

1. Sambrook, J., Fritsch, E. F. and Maniatis, T. (1989). *Molecular Cloning: A Laboratory Manual*, (2nd ed.), (pp. 10.51–10.67). Cold Spring Harbor: Cold Spring Harbor Laboratory Press.

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