2-Log DNA Ladder (0.1–10.0 kb)

NEW ENGLAND BioLabs Inc.
1-800-632-7799
info@neb.com
www.neb.com

N3200S 063130215021

N3200S

100-200 gel lanes (100 µg) Lot: 0631302 Exp: 2/15

1,000 µg/ml Store at –20°C

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

Description: A number of proprietary plasmids are digested to completion with appropriate restriction enzymes to yield 19 bands suitable for use as molecular weight standards for agarose gel electrophoresis. This digested DNA includes fragments ranging from 100 bp to 10 kb. The 0.5, 1.0 and 3.0 kb bands have increased intensity to serve as reference points.

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

Usage Recommendation: We recommend loading 0.5–1 µg of the 2-Log 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.

Notes: All fragments have 4-base, 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] dATP or α-[^{32}P] dTTP for the fill-in reaction.

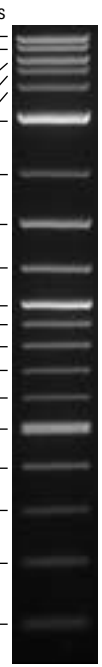
2-Log DNA Ladder is stable for at least 3 months at 4°C.

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.

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

The approximate mass of DNA in each of the bands in our 2-Log DNA Ladder is as follows (assuming a 1 µg loading):

Fragment	Base Pairs	DNA Mass
1	10,002	40 ng
2	8,001	40 ng
3	6,001	48 ng
4	5,001	40 ng
5	4,001	32 ng
6	**3,001**	**120 ng**
7	2,017	40 ng
8	1,517	57 ng
9	1,200	45 ng
10	**1,000**	**122 ng**
11	900	34 ng
12	800	31 ng
13	700	27 ng
14	600	23 ng
15a	**517**	> **124 ng**
15b	**500**	
16	400	49 ng
17	300	37 ng
18	200	32 ng
19	100	61 ng



2-Log DNA Ladder visualized by ethidium bromide staining on a 1.0% TBE agarose gel. Mass values are for 1 µg/lane.

(see other side)

CERTIFICATE OF ANALYSIS

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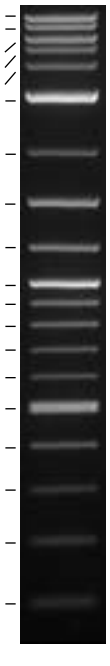

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Suggested protocol for loading a sample:

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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