

Product Information

DNA Ladders, Ready-to-Load

Kit Contents

Component	31084 1 kb DNA Ladder Ready-to-Load	31085 100 bp DNA Ladder Ready-to-Load
DNA Ladder (20 ng/uL in 1X DNA Loading Buffer)	31084A (1 kb DNA Ladder) 1.5 mL	31085A (100 bp DNA Ladder) 1.5 mL
6X DNA Loading Buffer (Blue)	99962 1.5 mL	99962 1.5 mL

Unit size: 150 applications (1.5 mL)

Storage and Handling

Store at -20°C. Product is stable for at least 24 months from date of receipt when stored as recommended. Ready-to-Use DNA Ladders also may be stored at 4°C for up to six months.

Product Description

These DNA Ladders are supplied ready-to-load in 1X DNA Loading Buffer at the optimal concentration for GelRed® or GelGreen® precast gels.

The 1 kb DNA Ladder is suitable for sizing linear double-stranded DNA fragments from 250 bp to 10 kb. The 1 kb and 3 kb bands have increased intensity to provide internal orientation (Figure 1). When 10 uL (200 ng) of 1 kb ladder is loaded, the reference bands will contain ~32 ng of DNA per band, while the other bands will contain ~12 ng of DNA per band.

The 100 bp DNA Ladder is suitable for sizing linear double-stranded DNA fragments from 100 bp to 1500 bp. The 500 bp band has increased intensity to provide internal orientation (Figure 1). When 10 uL (200 ng) of 100 bp ladder is loaded, the reference band will contain ~46 ng of DNA, while the other bands will contain ~15.4 ng of DNA per band.

The loading buffer provided contains density agents and two blue electrophoresis tracking dyes that run at approximately 1.5 kb and 200 bp in a 1% agarose gel.

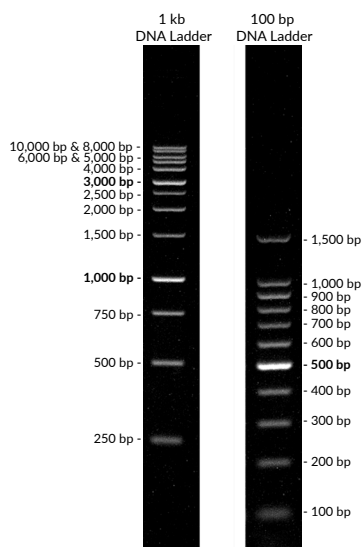


Figure 1. DNA Ladders separated on a 1% agarose/1X TBE GelRed® precast gel.

Experimental Protocols

These ladders are supplied in a ready-to-load format at an optimal concentration for use on GelRed® or GelGreen® precast gels. Note that higher loading amounts may be needed for gel stains with lower sensitivity like ethidium bromide or SYBR® Safe.

There is no need to mix the ladder with 6X loading buffer prior to loading onto a gel. The vial of DNA Loading Buffer is provided for your convenience to add to your other DNA samples before electrophoresis (you may also use your own DNA loading buffer if preferred).

To use the Ready-to-Load ladder for agarose gel electrophoresis

1. Warm the ladder to room temperature and vortex briefly to mix.
2. Load 5-10 uL of ladder per 5 mm lane for 100-200 ng total DNA per lane.

To use the 6X DNA Loading Buffer to prepare other DNA samples (optional; you may use other loading buffer if preferred)

1. Warm the buffer vial to room temperature and vortex to mix.
2. Add 1 volume of 6X DNA loading buffer to 5 volumes of your DNA sample for a final concentration of 1X gel loading buffer. For example, add 2 uL of 6X DNA Loading Buffer to 10 uL of DNA sample. Volumes may be scaled proportionally as needed for larger or smaller DNA sample volumes.
3. Pipette up and down or vortex briefly to mix, and then load the entire volume (DNA + Loading Buffer) on the gel.

Biotium also offers 1 kb DNA Ladder in TE Buffer (Cat. No. 31080) and 100 bp DNA Ladder in TE buffer (Cat. No. 31081) (see Related Products).

Related Products

Cat. No.	Product
E90005	Gel-Bright™ Laser Diode Gel Illuminator
41011	GelRed® Prestain Plus 6X DNA Loading Dye
41003	GelRed® Nucleic Acid Gel Stain, 10,000X in Water
41041	Precast GelRed® Agarose Gels, 1% Agarose/TAE
41029	GelRed® Agarose LE
41005	GelGreen® Nucleic Acid Gel Stain, 10,000X in Water
41030	GelGreen® Agarose LE
41039	Go-Go™ Fast DNA Gel Running Buffer, 50X
41006	TBE Buffer, 5X
22031	1X TAE (1L) Buffer Powder Packets (box of 50 packets)
99962-1	6X DNA Loading Buffer (Blue)
99859-1	6X DNA Loading Buffer (Orange)
41028	Agarose LE, Ultra-Pure Molecular Biology Grade
41032	EMBER500™ RNA Prestain Loading Dye
41020	DNAzure® Blue Nucleic Acid Gel Stain, 100X
41008	PAGE GelRed® Nucleic Acid Gel Stain, 10,000X in Water

Please visit our website at www.biotium.com for information on our life science research products, including safer and more sensitive GelRed® and GelGreen® Nucleic Acid Gel Stains, PCR master mixes, and nucleic acid extraction and quantitation kits.

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