



Precision Molecular Mass Standard

Catalog Number 170-8207

Contents	1 vial containing 250 μ l of the following mixture:			
	Stock Solution		When used at 2.5 μ l per lane	
	10 μ g	1,000 bp	100 ng	1,000 bp
	7 μ g	700 bp	70 ng	700 bp
	5 μ g	500 bp	50 ng	500 bp
	2 μ g	200 bp	20 ng	200 bp
	1 μ g	100 bp	10 ng	100 bp
Quantity	DNA sufficient for 100 lanes at 2.5 μ l per lane.			
Concentration	100 μ g/ml in TE Buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8).			
Shipping	The Mass Standard is shipped at room temperature.			
Storage	The Mass Standard should be stored at 4 °C. The standard can be stored at -20 °C in aliquots for long term storage. Use only sterile pipet tips when removing aliquots. Introduction of nucleases will shorten shelf life.			
Shelf life	The Mass Standard is stable for 1 year when stored at 4 °C.			
Use	The Mass Standard can be resolved in standard agarose gels of up to 2% and polyacrylamide gels up to 8%. Typically, 2.5 μ l of the Mass Standard should be loaded into each lane. It is necessary to add loading buffer to the standard prior to loading to insure correct results. Adjustments may be made to the loading volume for different well sizes and desired band intensity.			
Determination of concentration	The concentration values of the Mass Standard fragments are determined by UV absorbance at 260 nm wavelength using the conversion factor: 1.00 A_{260} unit=50 μ g/ml DNA. Fragment concentrations are accurate to within \pm 1%.			

Please note

In order to maintain accurate fragment concentrations, it is imperative to spin down any condensate and mix contents thoroughly before opening tubes and withdrawing aliquots.

For best results

Load the smallest practical amount of sample DNA to yield the sharpest bands and most accurate results.

The DNA fragments in this product possess either *EcoRI*- or *Hind III*- compatible cohesive ends.

It is necessary to add loading buffer to the sample prior to loading to insure correct results. Any conventional sample loading buffer should work well. For your convenience we offer the following recipe:

10X Sample Loading Buffer*

20% Ficoll 400
0.1 M Na₂EDTA, pH 8.0
1% SDS
0.25% Bromophenol Blue
0.25% Xylene Cyanol

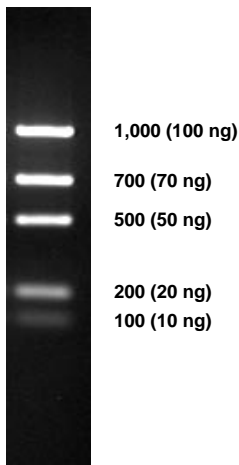


Fig. 1. 2.5 μ l of standard was diluted to 10 μ l in sample loading buffer and TE and loaded onto a 1.8% Molecular Biology Certified agarose (catalog number 162-0133) gel. The gel was run at 70 V for 75 minutes in 1x TAE buffer. The gel was stained in 300 ml of 0.5 μ g/ml EtBr for 15 minutes and destained in dH₂O for 30 minutes.

* Ausubel, F. M. *et al* , Current Protocols in Molecular Biology, Wiley Interscience Publishing, (1995), sec. 2.5.1.