BIO-RAD

20 bp Molecular Ruler

Catalog Number 170-8201

Contents	1 vial 20 bp Molecular Ruler, 250 µl supplied in TE (10 mM Tris-HCl, 1 mM EDTA, pH 8).
Quantity	DNA sufficient for 100 lanes at 2.5 µl per lane.
Concentration	200 µg/ml.
Shipping	The 20 bp Molecular Ruler is shipped at room temperature.
Size	50 bands: 20–1,000 bp in exact 20 bp increments. A visually distinct reference band at 200 bp contains three times the concentration of material found in other bands.
Storage	The 20 bp Molecular Ruler should be stored at 4°C. It can be stored at –20°C in aliquots for long term storage. Only use sterile pipet tips when removing aliquots. Introduction of nucleases will shorten shelf life.
Shelf life	The 20 bp Molecular Ruler is stable for 1 year when stored at 4°C.
Use	The 20 bp Molecular Ruler can be resolved in standard agarose gels of ≥2.5%, PCR agarose gels up to 4% or in polyacrylamide gels up to 8%. Typically, 2.5 µl of the DNA standard should be loaded into each reference lane. This loading volume is equal to 500 ng of DNA per lane. It is necessary to add loading buffer to the standard prior to loading to ensure correct results. Adjustments may be made to the loading volume for different well sizes and desired band intensity.

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

Use only sterile solutions, pipet tips, and tubes.

The 20 bp Molecular Ruler does not always resolve well in gels made of pure NuSieve GTG. For best results use Bio-Rad Certified™ PCR agarose, catalog numbers 161-3103, 161-3104, 161-3105, or the recommended mixture of 3:1 NuSieve GTG:standard agarose.

The DNA fragments in this product possess blunt ends.

It is necessary to add loading buffer to the sample prior to loading to ensure 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 Na_2EDTA, pH 8.0
1% SDS
0.25% Bromphenol Blue
0.25% Xylene Cyanol

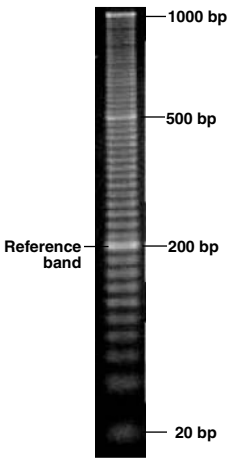

Fig. 1. 2.5 µl of 20 bp Molecular standard was diluted to 10 µl in sample loading buffer and TE and loaded onto a 2.5% Certified PCR agarose (catalog number 161-3104) gel. The gel was run at 140 V for 3 hours in 1X TBE buffer. The gel was stained in 300 ml of 0.5 µg/ml EtBr for 15 minutes and destained in dH_2O for 30 minutes.

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