

ClearBand DNA Marker 100bp-Green

Troubleshooting Guide

500 µL / 100 loads; 3 x 500 µL / 300 loads

Cat No: DM100, DM1003

Use this guide for common loading, band-visibility, and size-reference problems encountered with ClearBand DNA Marker 100bp-Green. The ready-to-load ladder contains 12 DNA bands from 100 bp to 3 kb; the 500 bp and 1,500 bp bands have increased intensity as quick reference points.

Before You Start - Quick Checks

1. Mix gently by pipetting up and down several times before use.
2. Load 5 µL of the ready-to-load marker directly into the gel well.
3. Expect 12 bands spanning 100 bp to 3 kb.
4. Use the brighter 500 bp and 1,500 bp bands as quick reference points.
5. The supplied band masses are based on a 5 µL ladder load.
6. Store at 4°C for up to 3 months or at -20°C for up to 24 months.

Problem	Most likely cause	Recommended action
Some low-molecular-weight bands are faint or missing	The marker may not have been mixed, too little may have been loaded, or the gel/run may not adequately resolve 100-bp-scale fragments.	Mix gently, load 5 µL, and use electrophoresis conditions capable of resolving the 100 bp-3 kb range.
The 500 bp or 1,500 bp band is unusually bright	These bands are intentionally supplied at increased intensity.	This is expected and provides quick reference points within the ladder pattern.
All marker bands are weak	The ladder load may be below 5 µL or imaging/staining may be insufficient.	Load the specified 5 µL and verify gel staining and imaging conditions.
Bands are broad or overloaded	Too much ladder may have been loaded or the well capacity may be limited.	Use the specified 5 µL load and avoid overfilling the well.
Small bands run off the gel	Electrophoresis may have continued beyond the range needed for 100-bp-scale fragments.	Monitor the run so the 100 bp end of the ladder remains on the gel and stop when the target size range is adequately separated.
DNA mass estimation is inconsistent	The provided approximate band masses assume a 5 µL ladder load.	Use 5 µL when comparing sample intensity against the ladder band-mass information.
Ladder lane is smeared	The ladder may be degraded, overloaded, or the gel/buffer may be compromised.	Use a properly stored aliquot, load 5 µL, and compare with a fresh gel or fresh running buffer if other lanes are also affected.
Marker is difficult to load	The well may be damaged or the ladder may have been dispensed too quickly.	Load slowly into the center of an intact well. The product is ready-to-load and requires no additional loading dye.
Pattern changes after storage	The marker may have been kept beyond the stated storage interval.	Store up to 3 months at 4°C or up to 24 months at -20°C.
Sample size estimate seems uncertain	The gel may not provide enough separation around the sample band.	Use the known 12-band pattern and the enhanced 500 bp and 1,500 bp reference bands; adjust electrophoresis conditions to improve resolution of the target region.

Still having trouble? Mix gently, load exactly 5 µL, and confirm that the electrophoresis system resolves the 100 bp-3 kb range. Use the enhanced 500 bp and 1,500 bp bands as anchors and review storage history if the ladder lane remains weak or smeared.