Product Name: DynaMarker® DNA Small

日本語データシート

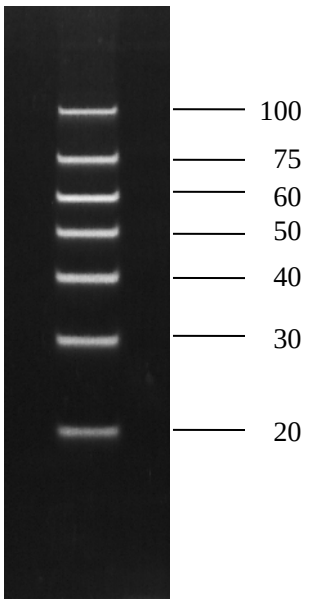
Code No. : DM100
Packing Size: 7 μg (50 μl), approximately 50 loadings

This product is for research use only

Description: DynaMarker® DNA Small consists of 20, 30, 40, 50, 60, 75 and 100 bp of blunt-end dsDNA. The order and size of each fragment is easy to distinguish and the marker shows very sharp bands. The DNA size marker is ideal for sizing small PCR fragments on non-denaturing acrylamide gel electrophoresis. It is possible to use DynaMarker® DNA Small on high-concentration agarose gel electrophoresis but acrylamide gel electrophoresis provides high-resolution separation of small DNA fragments (less than 100 bp).

Storage condition: -20℃
Storage buffer: 10 mM Tris-HCl (pH 7.5), 100 mM NaCl, 1 mM EDTA
Recommended Loading: 1 μl / lane

Supplied product: 6 × BPB loading dye (EDTA, glycerol and bromphenol blue are contained)



Electrophoresis of DynaMarker® Small DNA

Gel: Non-denaturing acrylamide gel (10%)
Loading: DynaMarker® Small DNA, 1 μl
Running buffer: 1 × TBE
Time and voltage: 200V, 20 min
After electophoresis, electrophoresed gel was stained with 0.5 μg/ml of EtBr for 15 min.

BioDynamics Laboratory Inc.
www.biodynamics.co.jp

Recommended usage:

Small DNA fragments (approximately 20 to 100 bp) are often separated on 10-15% of non-denaturing polyacrylamide gel electrophoresis. For example, DynaMarker® DNA Small can be run on 10 % non-denaturing polyacrylamide gel as below.

1. Preparation of 10 % polyacrylamide gel (20 ml gel)

40 % acrylamide : bis solution (19:1)	5.0 ml
10 × TBE	2.0 ml
H_2O	to 20 ml

2. After mixing reagents described above, add 20 µl of TEMED and 160 µl of 10 % ammonium persulfate. Mix quickly and then pour the gel into the mold of a vertical gel apparatus (20 ml is enough gel solution for two 7 cm × 8 cm, thickness 0.1 cm gels). The gel apparatus should be assembled according to the manufacturer's protocol and ready to run with 1 × TBE buffer.

3. Loading and electrophoresis

Prepare DNA sample for electrophoresis as below.

1) Size Marker:

DynaMarker® DNA Small	1 µl
distilled water	4 µl
6 × BPB loading dye	1 µl

2) Sample to examine:

DNA sample	5 µl
6 × BPB loading dye	1 µl

Mix the DNA solution with 6 × BPB loading dye in a tube as above. Load the mixture onto a well of 10 % non-denaturing polyacrylamide gel and start electrophoresis. After the tracking dye has migrated an appropriate distance through gel, stop the electrophoresis. To stain with ethidium bromide, disassemble the apparatus and transfer the polyacrylamide gel to a gel tray filled with distilled water containing 0.5 µg/ml ethidium bromide for approximately 15 minutes*. The stained DNA can be visualized using UV transilluminator.

* Longer staining time may decrease the DNA band intensity because small DNA diffuses within the gel over time.

Related products:

DynaMarker® DNA Low D (#DM112): for determining the size of low size DNA (50 to 1,000 bp)

DynaMarker® DNA High D (#DM122): for determining the size of high size DNA (300 to 10,000 bp)

DynaMarker® for Plasmid D (#DM132): for determining the size of high size DNA (200 to 7,000 bp)