NIPPON Genetics EUROPE

Technical Data

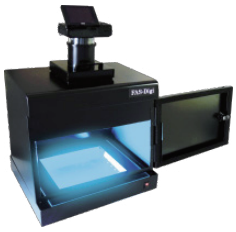
FastGene® 50bp DNA Ladder migration test

Evaluation product FastGene® 50bp DNA Ladder (MWD50)

Evaluation method Evaluation of electrophoretic photographs under different conditions of recommended use of FastGene® 50bp DNA Ladder.
* It is important to detect the low molecular region (50 - 250 bp)

Purpose The recommended migration condition of FastGene® 50bp DNA Ladder (MWD50) was evaluated

Appliances and reagents



Fas-Digi Dark box body only
(Cat No. FAS-DGMU)

Fas-Digi exclusive digital camera
(Pentax MX1)

Blue/Green LED Illuminator (500nm)
(Cat No. FG-08)

Blue LED Illuminator (470nm)
(Cat No. FG-06)

UV transilluminator medium wavelength (302nm)
(Cat No. FG-300)

FastGene®
Agarose
(Cat No. AG01/AG02)

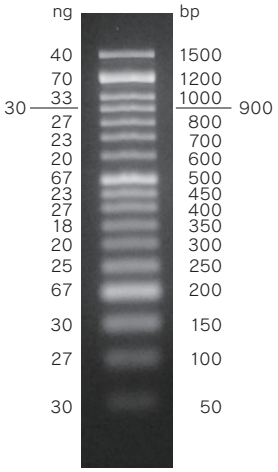
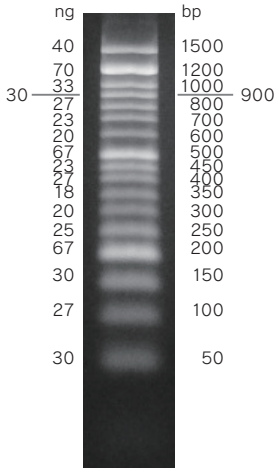
Staining reagent
Midori Green Direct
(Cat No. MG06)

Safe Blue Electrophoresis
Full System

FastGene®
50bp DNA Ladder
(Cat No. MWD50)

Result

FastGene® 50bp DNA (MWD50)

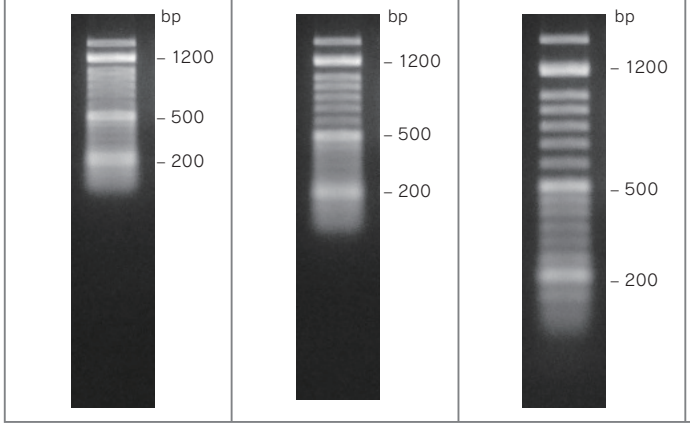
Electrophoretic picture		
Buffer	TAE	TBE
Agarose concentration	3.0%	3.0%
Agarose capacity	12.5mL	12.5mL
Gel size	H5.9cm×W5.1cm	H5.9cm×W5.1cm
Electrophoresis time	60min	60min
Voltage	100V	100V
Staining reagent	Midori Green Direct	Midori Green Direct
Agarose	FastGene® Agarose (Cat No. AG01/AG02)	FastGene® Agarose (Cat No. AG01/AG02)

Recommended migration condition
TAE : Agarose concentration 3.0% Electrophoresis time 60min Staining reagent MGD
TBE : Agarose concentration 3.0% Electrophoresis time 60min Staining reagent MGD

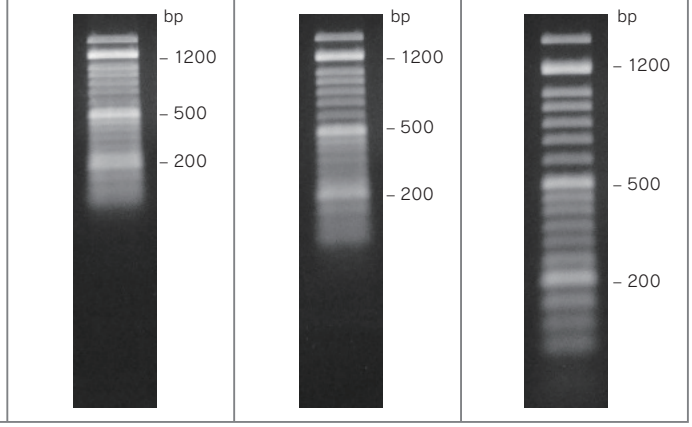
Summary TAE or TBE whichever is used, it is recommended to use an agarose concentration of 3% and an electrophoresis time of about 60 minutes.

Reference Data

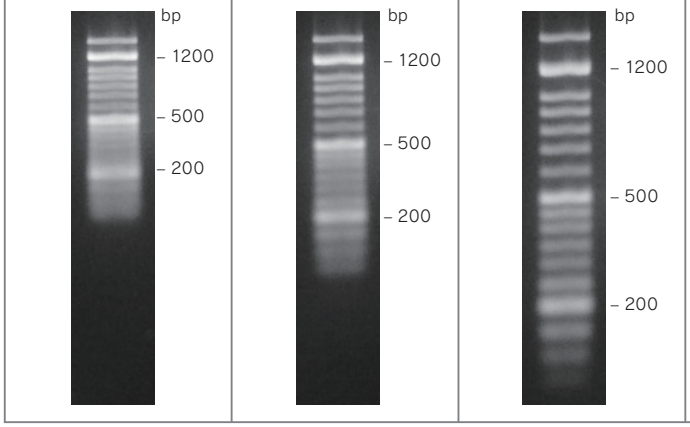
1.5% Agarose TAE



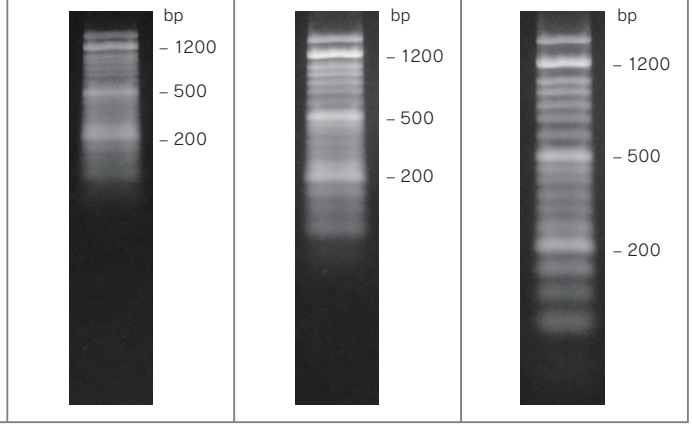
1.5% Agarose TBE



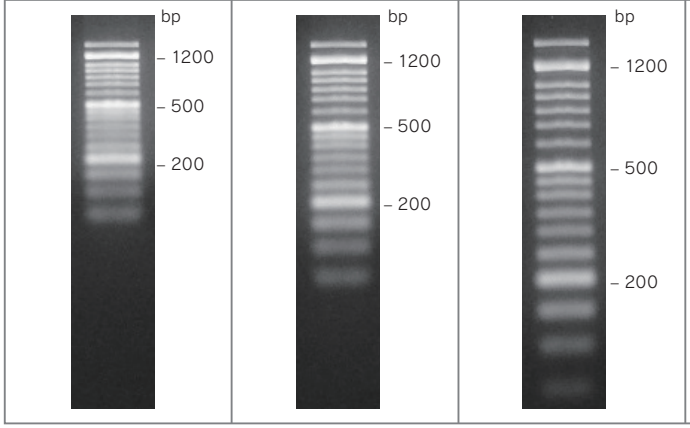
2.0% Agarose TAE



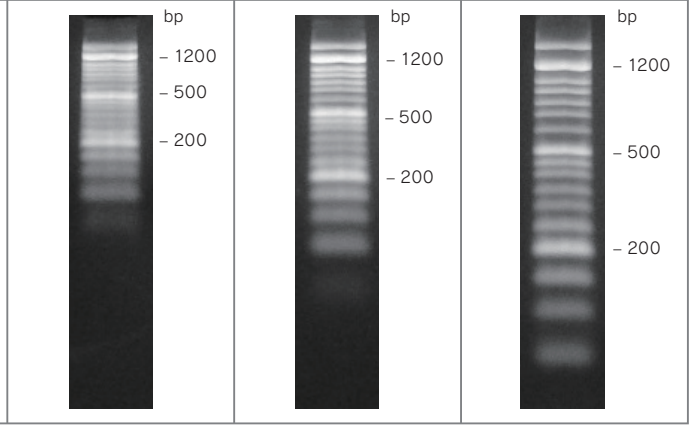
2.0% Agarose TBE



3.0% Agarose TAE



3.0% Agarose TBE



* If the migration time is short, the low molecular area looks smeared.

Information

Tris / acetic acid / EDTA buffer (TAE)

〈Characteristic〉

- Most common
- Suitable for linear, supercoiled DNA isolation
- Approximately 10% faster migration than TBE
- pH variation tends to occur during electrophoresis since buffering ability is low. There is a need in buffer exchange or buffer circulation under high current conditions.
- x 50 available

Tris / boric acid / EDTA buffer (TBE)

〈Characteristic〉

- It has a strong buffering power, can suppress ph variation and heat generation, suitable for electrophoresis under high voltage conditions
- The migration time becomes longer than TAE
- May have consequences in downstream applications

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