



Technical Data

Midori Green Advance: Long term storage test (3months) of pre-stained gels

Product

Nucleic acid staining reagent Midori Green Advance (MGA) (cat. No. MG04)

Purpose

Midori Green Advance was used to prepare a pre-stained gel. One was used “on the day of making”, another one was used “after 3 months”. Each gel was subjected to electrophoresis. Gel images were taken under the same conditions and were compared afterwards.

Method

Agarose gel was prepared by adding the nucleic acid staining reagent Midori Green Advance in advance (pre-stained gel). It was stored for 3 months and was evaluated whether it could be used for gel electrophoresis without problems.

Appliances and reagents



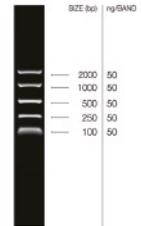
Fas-Digi
Dark box body only
(Cat No. FAS-DGMU)
Fas-Digi dedicated digital camera
(Cat No. FAS-DGDC-MX1)
Blue/Green LED Illuminator (500nm)
(Cat No. LB-16BG)



FastGene®
Agarose
(Cat No. AG02)



Nucleic acid staining reagent
Midori Green Advance
(MGA)
(Cat No. MG04)



Bioline Easy Ladder I
(Cat No. BIO-33045)

Procedure

- A pre-stained gel was prepared under the following conditions.
 - Agarose gel: 1.5% TAE agarose gel (AG-02) 12.5mL / mini gel
 - Nucleic acid staining reagent: Midori Green Advance (MG04) 4 μ L / 100 mL (0.5 μ L / 12.5 mL)
- The pre-stained gel was used for electrophoresis under the following conditions
 - Condition 1: Used for electrophoresis on the day of creation
 - Condition 2: Store at 4°C *, after 3 months the gel was used for electrophoresis
 - * Details of pre-stained gel storage method is described in <Storage method>
- Electrophoresis and gel imaging conditions:
 - DNA sample: Bioline Easy ladder I (Bio-33045) 5 μ L / lane Conc. (250ng / 5 μ L)
 - Electrophoresis: SafeBlue Electrophoresis system (MBE-150 Plus)
 - 100V 30min
 - Gel imaging: FAS-Digi (Pentax MX-1) Blue/Green LED illuminator 500nm (480~510nm)

Pre-stained gel storage method

Usually, when agarose gel is refrigerated and stored at 4°C, it is ideal to store it in a container containing “the same buffer solution used for gel preparation” in order to prevent drying.

However, in the case of a pre-stained gel, in order to prevent dilution of the staining reagent, it is necessary to add the same concentration of the staining reagent to the storage buffer.

Therefore, we did not use buffer for storage this time. We wrapped the gel as it was, shielded with aluminium foil, to avoid light exposure and tried a method to store it with a double plastic bag with zipper.



① Wrap each gel together with tray



② All gels are shaded with aluminium foil

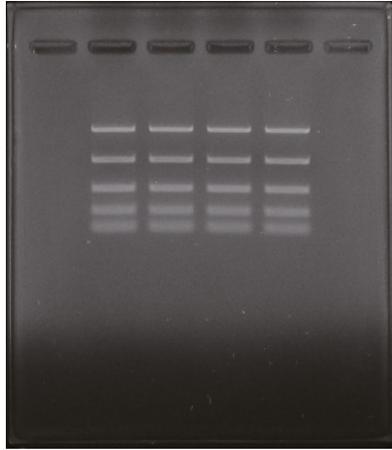


③ Packed in a plastic bag with double chuck and stored at 4°C

Result

Gel photography: FAS-Digi MX-1 Auto Exposure -1

Figure 1: Comparison of Electrophoretic Images using a Midori Green Advance pre-stained gel



On the day of creation



After 3 months storage

Summary

The result of this study shows, that even after refrigerating a gel which was stained with Midori Green Advance for 3 months at 4°C there was no difference in the detection of sensitivity observed and it was possible to use it for electrophoresis without problems.