NIPPON Genetics Co.,Ltd.

Staining RNA with Midori Green Advance

Cat. No. MG04

Product Description

The Midori Green Advance is a nucleic acid stain which can be used as a safe alternative to Ethidium Bromide. It shows comparable sensitivity and can be used in a classical in gel staining procedure as well as in poststaining procedures.

Midori Green Advance is compatible with a wide variety of gel reading instruments. It has two fluorescent excitation peaks in the low wave-length spectrum (~270 nm & ~290 nm) found on traditional UV tables. An additional strong excitation peak is found at ~490 nm, thus enabling an UV-independent and less destructive detection of nucleic acids. The emission peak is centered at ~530 nm.

Safety

Midori Green Advance DNA stain is non-carcinogenic. According to the Ames test, significantly fewer mutations were detected when using Midori Green Advance compared to Ethidium Bromide.

Methods

RNA samples were separated on a 1.0% agarose gel stained with Midori Green Advance (Figure 1) or with Ethidium Bromide (Figure 2). 0.5 µg of RNA were loaded on the lanes 1 and 2. Lane 3 was loaded with 0.3 µg ofv RNA and the last lane had 0.7 µg of RNA applied on. The separation of the RNA was performed using a 1xTBE Buffer and 100V for 1 hour.

Quick Notes

- Sensitive detection of RNA.
- Non-carcinogenic and significantly less mutagenic
- Suitable for most gel reading intruments.
- Comparable to Ethidium Bromide.

Results

Midori Green Advance delivered superior image quality and very distinctive bands indicating the presence of the expected 28S and 18S rRNA bands **(Figure 1)**.

Lanes 1 and 2 showed a comparable band intensity. The reduced amount of RNA resulted in a reduced intensity, shown in Figure 1, lane 3. The intensity observed in the fourth lane increased hence corresponding to the increased amount of RNA applied to the gel. The intensity using Midori Green Advance was comparable to Ethidium Bromide.

Conclusion

Midori Green is a safe and sensitive alternative for Ethidium Bromide. Bands' intensity correspond to the amount of RNA and the predicted bands were visible and distinctive.

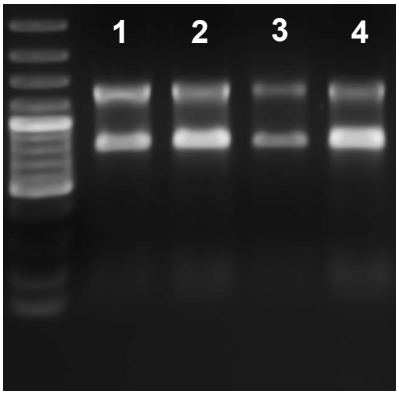

Figure 1 RNA stained using Midori Green Advance.* 4 Samples of RNA were visualized on a 1% agarose gel and stained using Midori Green Advance. The two bands represent the major rRNA of 28S and 18S.

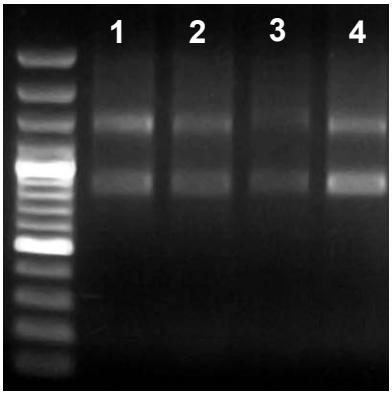

Figure 2 RNA stained using Ethidium Bromide.* Same 4 samples of RNA from Figure 1 were visualized on a 1% agarose gel and stained using Ethidium Bromide. The two bands represent the major rRNA of 28S and 18S.

* Data kindly provided by Ms Kirstin Linsmeier, University of Heidelberg, Germany

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