Owi EmeralDye Safe DNA Stain

User Manual

References: 258512 / 258512E

FOR RESEARCH USE ONLY

SIZE: 1 mL – 250 gels of 100 mL Agarose

STORAGE TEMPERATURE: +4°C in the dark

SHELF LIFE: 12 months from the date of reception when stored properly

PRODUCT DESCRIPTION:

Owi EmeralDye Safe DNA Stain is a new nucleic acid stain designed as a safer alternative to traditional ethidium bromide for detecting nucleic acids in agarose gels. It offers a sensitivity equivalent to ethidium bromide and can be used in the same way for agarose gel electrophoresis. When bound to DNA or RNA, it emits green fluorescence. The dye has two secondary excitation peaks (~270 nm and ~290 nm) and a primary excitation peak centered around 490 nm. Fluorescence emission is centered at 530 nm.
Owi EmeralDye Safe DNA Stain is compatible with a wide range of imaging systems. It can be used with the in-gel staining method, and for increased sensitivity, the post-staining method is recommended.

SAFETY:

Owi EmeralDye Safe DNA Stain is non-carcinogenic and has been shown, according to the Ames test, to cause significantly fewer mutations than ethidium bromide.

NOTE:

1. Not recommended for use with loading buffers containing SDS, as this may alter band appearance due to interaction with SDS.
2. Repeated melting of gels containing the stain may significantly reduce sensitivity.
3. **Owi EmeralDye Safe DNA Stain** may cause skin and eye irritation. Wear gloves when handling the product.

PROTOCOL:

In-Gel Staining

1. Prepare 100 mL of agarose gel solution (0.8% to 3.0%) and heat until the solution is completely clear, with no visible particles.

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2. Add 4 to 6 µL of Owi EmeralDye Safe DNA Stain to the gel solution and mix thoroughly until fully dissolved.
3. Cool the gel to 60–70 °C and pour it into the gel tray. Once solidified, load your samples and perform electrophoresis.
4. After electrophoresis, visualize and document your results using a non-hazardous blue or blue/green LED transilluminator.

Post-Staining

1. The post-staining solution can be reused 2 to 3 times. It should preferably be stored at room temperature and protected from light. For agarose gels less than 0.5 cm thick, use 10–25 µL of stain per 100 mL of buffer.
2. Optimal staining time (5–60 minutes) and the amount of stain required depend on gel thickness and agarose concentration. Prepare 100 ml of agarose gel solution (0.8 to 3.0%) and heat until the solution is perfectly clear and no suspended particles are visible.

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