G-Green nucleic acid dye

Code No.: NGG004 500 ul

Product features:

1. Non-toxicity: The unique oily nature and high molecular weight of G-Rreen prevent it from penetrating the cell membrane and entering the cell. The results the Ames test also indicate that the mutagenicity of this dye is far lower than that of EB.
2. High sensitivity: suitable for electrophoresis staining of fragments of various sizes, with less effect on nucleic acid migration than SYBR Green I.
3. High stability: Suitable for preparing agarose gels using microwave or other heating methods; extremely stable in acid or base buffers at room temperature, and highly light.
4. High signal-to-noise ratio: strong sample fluorescence signal and low background signal.
5. Simple operation: Like EB, the dye does not degrade during gel preparation and electrophoresis; the post-electrophoresis staining process also takes only 3 minutes and requires no destaining or rinsing, allowing for direct observation using a UV gel transilluminator.
6. Fully compatible with standard gel imaging systems and visible light-excited gel viewing devices: suitable for use with 254nm excitation UV gel imaging systems visible light-excited gel viewing devices.

Usage:

1. Gel dyeing method (usage same as EB) (recommended method)

(1) Add G-Green nucleic acid dye during gel preparation (e.g., add 5 μL G-Green to every 50 mL of agarose solution, so on).

(2) Perform electrophoresis according to the conventional method.

Important Note：

(1) This method uses a relatively small amount of staining dye. 500 μL of dye can make about 100 pieces of 50 mL gels.

(2) Due to its excellent thermal stability, G-Green can be added directly to hot agarose solutions without waiting for them to cool. Shake, swirl, or invert ensure the dye is thoroughly mixed. Alternatively, G-Green stock solution can be added to agarose powder and electrophoresis buffer, then heated using a microwave or other common methods to prepare the gel. G-Green is compatible with all commonly used electrophoresis buffers.

(3) If band smearing or poor separation is consistently observed, it is recommended to use the soaking method for staining to confirm whether the issue is related to the dye If the problem persists after staining, it indicates that the issue is unrelated to the dye. Please try the following: reduce the agarose concentration; use a longer gel; extend the gel time to ensure sharp bands; improve loading techniques or choose the soaking method for staining.

(4) This method is not suitable for precast polyacrylamide gels; for polyacrylamide gels, please use the immersion method.

2. Soaking and dyeing method:

(1) Perform electrophoresis according to the conventional method.

(2) Dilute G-Green about 3,300-fold with H_2O into 0.1 M NaCl to prepare a 3× staining. (For example, add 15 μL G-Green 10,000 and 5 mL 1 M NaCl to 45 mL H_2O.

(3) Carefully place the gel into a suitable container, such as a polypropylene container. Slowly add a sufficient amount of 3×staining solution to submerge the. Shake to stain at room temperature for about 30 min; the optimal staining time varies slightly depending on the gel thickness and agarose concentration. For gels containing 3.5%-10% acrylamide, the staining time is typically between 30 min and 1 h, and increases with the acrylamide content.

Notes:

(1) If you are using a UV imager, please select G-Red; if you are using a laser imager or wish to observe under visible light, please G-Green.

(2) In rare cases, DNA samples of plasmids after digestion with certain enzymes may exhibit trailing and reduced resolution; it is recommended to try both staining methods to determine which one more appropriate.