Product Data Sheet

Product Name: Gsafe Green plus (10000× in ddH_2O)

Cat. No.: GK20003

Features

Applications	1. Safe and non-toxic: The unique oily macromolecule characteristics make it unable to penetrate the cell membrane and enter the cell. The Ames test result also shows that the mutagenicity of the dye is far less than EB. 2. High sensitivity: It is suitable for electrophoretic staining of fragments of various sizes and has little effect on nucleic acid migration. 3. High stability: It is suitable for preparing agarose gel using microwave or other heating methods; it is extremely stable in acid or alkali buffer at room temperature and has strong light resistance. 4. High signal-to-noise ratio: the sample has a strong fluorescent signal and a low background signal. 5. Simple operation: it does not degrade during precast gel and electrophoresis, and can be directly observed with visible light gel transmission instrument. 6. Wide range of application: you can choose to stain before electrophoresis (gel stain method) or after electrophoresis (bubble stain method); apply to agarose gel or polyacrylamide gel electrophoresis; can be used for dsDNA, ssDNA or RNA staining. 7. Perfect compatibility: suitable for ultraviolet gel imaging system excited by 254nm or gel observation device excited by blue visible light.
Shipping	Ship with blue ice.
Storage	Stored at 2-8°C, and is stable for up to 2 years.
Usage	For Research Use Only! Not For Use in Humans.

Protocol

Gum dyeing method (front dyeing method)

1. Prepare the agarose gel as usual, add concentrated 10000X Gsafe Green plus to make the final concentration in the gel 1X (for example, prepare 100ml gel, add dye 5μl-10μl, the dosage can be adjusted according to the actual situation), shake gently, pour the glue.
For Marker above 1Kb, it is recommended to reduce the dosage by half.
2. Electrophoresis in accordance with conventional methods, and observe the results.

Bubble dyeing method (post dyeing method)

1. Perform electrophoresis in accordance with conventional methods.
2. Dilute 10000X Gsafe Green plus concentrate with dH2O about 3300 times to 0.1M NaCl to make 3X staining solution. (For example, 15μl 10000X Gsafe Greenplus concentrate and 5ml 1M NaCl were added to 45ml dH2O).
3. Carefully place the gel in a suitable container and slowly add sufficient 3X staining solution to submerge the gel. Shake at room temperature for about 30 minutes. The optimal staining time depends on the gel thickness and agarose, the concentration is slightly different. For 3.5-10% acrylamide glue, the dyeing time is usually between 30min and 1 hour, then observe the results.

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Notices

1.Because Gsafe Greenplus has good thermal stability, it can be added directly to the hot agarose solution without waiting for the solution to cool. Shake, oscillate or flip to make sure that the dye is thoroughly mixed. Alternatively, the Gsafe Green plus stock solution can be added to the agarose powder and the electrophoresis buffer, and then heated in a microwave oven or other common methods to prepare agarose gel. Gsafe Green plus is compatible with all commonly used electrophoresis buffer solutions.
2. If you always see band dispersion or separation is not ideal, it is recommended to use bubble dyeing to confirm whether the problem is related to the dye. If the problem persists after dyeing, it means that the problem is the dye is irrelevant, please try: reduce the concentration of agarose; choose a longer gel; extend the gel time to ensure the edge is clear; improve the sampling technique or choose the bubble staining method.
3. Gsafe Green plus has a certain affinity for glassware and non-polypropylene materials. It is recommended to use polypropylene containers in the process of dilution, storage and dyeing.
4. This method is not suitable for prefabricated polyacrylamide gels. For polyacrylamide gels, please use the bubble staining method.

Background

Gsafe Green plus (equivalent to GelGreen) is an upgraded version of a new type of cyanine nucleic acid dye developed by GlpBio. Gsafe Green plus improved cyanine matrix benzene ring into a chain. Structured oily macromolecules, this unique oily macromolecule cannot penetrate cell membranes into living cells and is not easily volatilized and is sucked into the human body, and is not available at gel staining concentration. Mutagenicity, with the characteristics of safe and non-toxic use and sensitive detection. At the same time, it improves the shortcomings of the bending and migration of the electrophoretic bands of cyanine-based nucleic acid dyes, and can be used as a variety of nucleic acid electrophoresis. Staining agent, suitable for dyeing various fragment sizes. It is perfectly compatible with standard UV gel imaging system and visible light-excited gel observation device, suitable for UV gel imaging system or blue visible light excited gel observation and safe cutting, is a safe, non-toxic, highly sensitive new nucleic acid dye.

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