Product Data Sheet

Product Name: Gsafe Red plus (10000× in ddH_2O)
Cat. No.: GK20002

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. The sample has a strong fluorescence signal and a low background signal. 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. And not volatile! 4.Simple operation: it does not degrade during precast gel and electrophoresis, and can be directly observed with visible light gel transmission instrument. 5.Wide range of application: you can choose to stain before electrophoresis (gel staining) or after electrophoresis (bubble staining); apply to agarose gel or polyacrylamide gel electrophoresis; can be used for dsDNA, ssDNA or RNA staining.
Shipping	Ship with blue ice.
Storage	Store at 2-8˚C (Avoid direct sunlight), 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) (used in the same way as EB)

1. Prepare the agarose gel as usual, add concentrated 10000X Gsafe Red Plus to make the final concentration in the gel 1X Gsafe Red (for example, prepare 100ml gel, add dye 5μl-10μl, the dosage can be adjusted according to the actual situation) , Shake gently and pour the glue.
2. Because it is very sensitive, the amount of DNA marker loading in the electrophoresis process only needs 1-2ul instead of 5ul in EB electrophoresis. Please strictly control the amount of DNA marker loading.
3. Electrophoresis according to conventional methods and observe the results.

Bubble dyeing method (post dyeing method, the specific method is shown on the back)

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Appendix: Standard operating procedures for post-dyeing gum

After the nucleic acid electrophoresis, the stained gel is more and more accepted and adopted by the laboratory because the pollution area is small and the pollution operation is controllable.

Standard operating procedure (take 100ml 1% agarose as an example):
1. Weigh 1g agarose, measure 100ml 1xTAE (or 1x TBE) electrophoresis buffer, and pour into a triangular flask in turn.
2. Boiling the gelatin in the microwave oven causes the agarose to completely melt.
3. Take it out and let it stand for 5 minutes. After the temperature of the glue drops to 50 degrees, pour the glue into the mold.
4. After 20 minutes, when the glue is completely formed, take it out and put it into the electrophoresis tank.
5. Mix PCR products or other DNA samples with the loading buffer and load one by one.
6. Electrophoresis for 20-30 minutes. According to the position of bromophenol blue, determine the appropriate time for electrophoresis and stop electrophoresis.
7. Put the gel after the electrophoresis into the liquid containing the dye, and dye the gel for 10 minutes (if the gel thickness is extended for a reasonable period of time).
8. Take out the glue and put it into the glue scanner to observe the result.

Dyeing liquid configuration: 180ml dH2O, add 20ml 1M NaCl, and then add 10000x Gsafe Red Plus concentrated liquid 60ul.
Use of glue solution: The configured glue solution can be reused many times until the glue strength is very low and then reconfigured.

Background

Gsafe Red Plus Nucleic Acid Dye (10000X) is a red fluorescent nucleic acid stain that has been optimized and developed on the basis of Gelred with gel staining characteristics and is designed to replace the highly toxic staining agent ethidium bromide (EB) with higher clarity and sensitivity. Because Gsafe Red Plus has the same spectral characteristics as EB, it can be used to replace EB without changing any imaging system. If you use SYBR (such as SYBR Green I / SYBR Gold) stain and use a UV transilluminator to observe the gel, you can use Gsafe Red Plus to replace the SYBR stain, without replacing the existing SYBR light. sheet. However, Plus cannot be sufficiently excited

under a 488 nm laser or similar visible light. If necessary, it is recommended that you use Gsafe Green stain. Its sensitivity is the same as SYBR Green I, but its stability and reliability are far better than the latter. Plus can be used for both precast gel staining and post gel staining. Generally, post-staining can obtain more sensitive characteristics than pre-staining, and can exclude the possibility that the staining agent will have any effect on the separation of nucleic acid bands during the electrophoresis process. However, front dyeing is simpler and more economical than back dyeing because front dyeing does not require an additional coloring process and the amount of dye used is less. In addition, like GelGreen and EvaGreen, Plus has extremely low ability to induce mutations compared to EB or SYBR. Gsafe Red Plus nucleic acid dye, 10,000X in water is concentrated Gsafe Red Plus solution. When used for pre-dyeing, it can be diluted 10,000 times before use; when used for post-dyeing, it is recommended that you dilute it 3,300 times before use, see specific steps.

Gsafe Red Plus□□□□□10000□□□□□□□□□□□□□□□□□□□□Gelred□□EB□□□□Gsafe Red Plus□□□EB□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□EB□□□□□SYBR□□□SYBR Green I / SYBR Gold□□□□□□□□□□□□□□□□□□□□□□□□Gsafe Red Plus□□SYBR□□□□□□□□□□□SYBR□□□□□□□□488 nm□□□□□□□□□□□□□□□□□□Plus□□□□□□□□□□Gsafe Green□□□□□□□□SYBR Green I□□□□□□□□□□□□□□□□□□□□□□Plus□□EB□SYBR□□□□GelGreen□EvaGreen□□□Plus□□□□□□□□□□□ Gsafe Red Plus□□□□□□□10,000□□□□Gsafe Red Plus□□□□□□□□□□□□□□□□□□□□□□□□□10,000□□□□□□□□□□□□□□□□□□□□□□□□3,300□□□□□□□□□□□