MxSafe/MxSafe Plus nucleic acid dye (10,000× aqueous solution)

Packing specification

Product Numbers: MXsafe: MX007-500

Mxsafe PLUS: MX017-500,

Specifications: 500ul

Storage conditions: Store at 4℃, valid for three years.

MxSafe/MxSafe Plus nucleic acid dye characteristics

● Non-toxic: MxSafe/MxSafe Plus' unique oiliness and large molecular weight 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.

● High sensitivity: It is suitable for electrophoretic staining of fragments of various sizes, and has less influence on nucleic acid migration than SYBR Green I.

● High stability: It is suitable for preparing agarose gel using microwave or other heating methods; it is extremely stable in acid or alkali buffer solution at room temperature and has strong light resistance.

● High signal-to-noise ratio: the sample has a strong fluorescent signal and a low background signal.

● Simple operation: like EB, the dye does not degrade during the pre-made gel and electrophoresis process; and the staining process after electrophoresis can be directly observed by UV gel transmissometer after only 30 minutes without decolorization or washing.

● Wide range of application: You can choose to stain before electrophoresis (gel staining) or after electrophoresis (bubble staining); suitable for agarose gel or polyacrylamide gel electrophoresis; can be used for dsDNA, ssDNA or RNA staining.

● Has the same spectral characteristics as EB, no need to change the filter and observation device: standard EB filter or SYBR filter are applicable, use the same ordinary ultraviolet gel transmission instrument as that for EB observation at 300nm The best excitation can be obtained near ultraviolet light. However, MxSafe cannot be fully excited by a 488 nm argon ion laser or similar wavelength visible light, so it is not recommended to use an imaging system with such an excitation device. For such devices, we recommend that you use MxSafe Plus, which has a similar spectrum to SYBR Green I and has similar sensitivity but is more stable.

Introduction to the use of MxSafe/MxSafe Plus

1. Glue dyeing method (same as EB)

(1) Add MxSafe/MxSafe Plus nucleic acid dye during gel preparation (for example: add 5μL MxSafe/MxSafe Plus 10,000× stock solution per 50mL agarose solution.

(By analogy).

Perform electrophoresis in accordance with conventional methods.

In view of the high sensitivity of MxSafe/MxSafe Plus, it is recommended to reduce the amount of DNA loading. It is recommended that the DNA loading of each lane is 1/2 of the traditional loading, for example: the traditional loading is 5ul/lane, use this product The dosage is 2.5ul/lane, but the dosage of nucleic acid dye cannot be reduced (for example: continue to add 5μL MxSafe/MxSafe Plus per 50mL agarose solution).

Precautions:

●The amount of dyeing dye used in this method is relatively small. 500 μL dye can make about 100 pieces of 50mL glue.

●Because MxSafe/MxSafe Plus has good thermal stability, it can be directly added to the hot agarose solution without waiting for the solution to cool. Shake, shake or invert to ensure that the dye is mixed thoroughly. Alternatively, the MxSafe/MxSafe 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 an agarose gel. MxSafe/MxSafe Plus is compatible with all commonly used electrophoresis buffer solutions.

●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 tha the problem has nothing to do with the dye. Please try: reduce the concentration of agarose; choose a longer gel; extend the gel time to ensure clear edges; improve sample loading skills or choose bubble dyeing.

●This method is not suitable for prefabricated polyacrylamide gel. For polyacrylamide gel, please use bubble dyeing method.

2. Bubble dyeing

(1) Perform electrophoresis in accordance with conventional methods.

(2) Dilute the MxSafe/MxSafe Plus 10,000× stock solution with H2O about 3,300 times to 0.1M NaCl to make a 3× staining solution. (For example, add 15μL MxSafe/MxSafe Plus 10,000× stock solution and 5mL 1M NaCl to 45mL H2O).

(3) Carefully place the gel in a suitable container, such as a polypropylene container. Slowly add enough 3X staining solution to submerge the gel. Shake at room temperature for about 30 minutes. The optimal staining time varies slightly depending on the thickness of the gel and the concentration of agarose. For gels containing 3.5 to 10% acrylamide, the staining time is usually between 30 min and 1 h, and it increases as the acrylamide content increases.

Precautions:

●When dyeing by bubble dyeing, the amount of dye is more. A single-use staining solution can be reused about 3 times.

● 3× MxSafe/MxSafe Plus staining solution can be prepared in large quantities and stored at room temperature in the dark until it is used up.

special reminder:

● If you are using an ultraviolet imager, please select MxSafe; if you are using a laser imager, blue light transmissometer or wish to observe under visible light, please select MxSafe Plus.

●After MxSafe Plus staining, it is recommended to use Zeta Life's DNA gel imaging visible light blue light transmissometer (article number: CMA001) and nucleic acid amplification rapid detector (article number: CMA002).

● In rare cases, the DNA samples after plasmid digestion will have tailing and reduced resolution. It is recommended to try two staining methods at the same time to decide which method is more suitable.

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