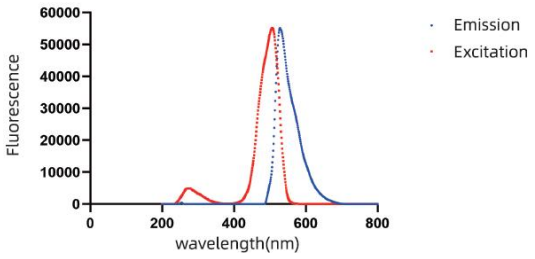
Safe Green Nucleic Acid Stain,10000X

Catalog: RM19008

Size: 500 μL

Product Description

Safe Green is a safe, highly sensitive, and highly stable fluorescent nucleic acid stain, which is compatible with commonly used electrophoresis buffer solutions such as TAE, TBE, and RRB (rapid electrophoresis buffer), and can replace unsafe stains such as ethidium bromide (EB). Safe Green has a unique non-mutagenic molecular structure that is preferred for both user safety and ease of disposal. It can be reliably used to detect and size nucleic acid samples during gel electrophoresis without affecting the expected migration of DNA bands, unlike alternative nontoxic nucleic acid stains that can generate distortion of large molecular weight bands. The excitation wavelength for Safe Green is 488 nm, allowing for direct observation with blue light for ease of sample detection. Safe Green can also be visualized using ultraviolet light in UV gel imaging systems with a SYBR Green filter.



Excitation and emission Spectra of Safe Green

Storage Conditions

Store at room temperature. Protect from light.

Protocols

1. Pre-Cast Agarose Gels Containing 1X Safe Green (recommended)

a. Add 5 μL Safe Green 10,000X Stock Solution per 50 mL agarose gel and mix thoroughly. Safe Green has excellent thermostability and can be added either to agarose powder and electrophoresis buffer prior to heating and melting, or afterwards to molten agarose solution. Cast gel as usual.

b. Safe Green is highly sensitive; for clear results, decrease loaded sample volume by 1/2 to 1/3 of that typically loaded into wells with Ethidium Bromide staining.

c. Perform electrophoresis according to conventional methods and then proceed to blue light visualization (recommended) or UV imaging with a SYBR Green filter.

2. Post-Staining with 3X Safe Green：

a. Cast stain-free gels and perform electrophoresis according to conventional methods.

b. Prepare a 3X Safe Green Post-Staining Solution in 0.1M NaCl as follows: combine 15 μL Safe Green 10,000X stock solution, 5 mL of 1M NaCl , and 45 mL H_2O.

c. Immerse the gel in 3× Safe Green staining solution and stain for 30-60 min with rocking at room temperature. Optimal staining time may vary according to agarose concentration and the thickness of the gel.

d. Visualize using blue light (recommended) or UV imaging.

Notes

1. Gels cast with Safe Green may appear light red-orange, and after electrophoresis, color may appear uneven (e.g.: deeper coloring in the upper half shading to a lighter color in the lower half), which is a normal phenomenon and does not affect electrophoresis results.

2. Safe Green has better excitation under blue light than with ultraviolet light, decreasing user and sample exposure to UV damage. If UV detection is preferred, RM19009-Safe Red Nucleic Acid Stain is recommended.

3. 3X Safe Green Post-Staining Solution can be prepared as a working stock in large quantities and should be stored away from light. With proper storage, it can be reused up to 3 times.

4. Each 500 μL vial of 10,000X concentrated Gel Safe solution is sufficient to prepare approximately 100 individual 50 mL gels when added to molten agarose gel prior to gel casting.