SafeGreen nucleic acid gel stain

C301869

Storage 2-8℃. Protect from light.

Description

SafeGreen DNA gel stain is designed for reduced mutagenicity, as a safer replacement for toxic ethidium bromide (EtBr) in agarose/acrylamide gel staining, with no or very low mutagenic activity at concentrations above working doses. It is more sensitive than EtBr for precast/post gel staining, and can stain RNA in gels.

DNA bands stained by SafeGreen can be detected via standard UV transilluminator, visible-light transilluminator or laser-based scanner. The 10,000X in DMSO is a concentrated solution, one 0.5ml vial can prepare 100 precast minigels or post-stain at least 100 minigels. It is compatible with downstream applications (gel extraction, cloning), and can be efficiently removed from DNA by phenol/chloroform extraction and ethanol precipitation.

Bound to nucleic acids, SafeGreen has fluorescence excitation maxima at 280 and 502 nm, and an emission maximum at 530 nm.

Storage

Store at 2 to 25°C. Thaw completely and mix if frozen; repeated freeze-thawing has minimal impact on performance.

Features

• Safety: Nearly nonmutagenic and noncytotoxic
• Easy disposal: Safe to dispose in the drain
• Compatibility: Spectrally compatible with existing instruments
• Sensitivity: Higher signal but lower background
• Stability: Storable at RT and microwavable

Post-staining Protocol

1. Run gels according to standard protocol.
2. Dilute 10,000X stock ~3,300 fold in TAE/TBE buffer to make 3X staining solution.
3. Place the gel in a polypropylene container, add sufficient 3X staining solution to submerge the gel.
4. Agitate gently at room temperature for ~30 minutes.
5. Image the gel with 254nm transilluminator, Dark Reader or laser-based scanner (with long path green filter such as SUPERfilter/GelStar filter).
6. Staining solution can be reused 2~3 times, store at RT protected from light.
7. View stained gels via 300 nm transilluminator, 254 nm epi/transilluminator or blue-light

transilluminator.

Pre-cast Protocol

1. Prepare molten agarose gel solution by standard protocol.
2. Dilute 10,000X stock into molten agarose at 1:10,000 and mix thoroughly (can add at 50~60°C; e.g., 3 µL stock to 30 mL 1X TBE for 30 mL gel).
3. Cast the gel and solidify; leftover gel solution can be stored and reheated for reuse. Precast gels can be stored at 4°C.
4. Load samples and run gels by standard protocol.
5. Image the gel with 254nm transilluminator, Dark Reader or laser-based scanner (with long path green filter).
6. View stained gels via 300 nm transilluminator, 254 nm epi/transilluminator or blue-light transilluminator.

Note

The pre-cast protocol is not recommended for polyacrylamide gels.