GelStain

Cat.No. GS101
Storage at 4°C in dark for one year
Concentration: 10000×
Description

GelStain is a sensitive, stable and safe staining reagent for DNA/RNA. GelStain uses the same wavelength as ethidium bromide (EB), and it is more sensitive than EB.

Highlights

- Non toxicity: GelStain is a specific form of oily macromolecules, which are incapable of entering cells via the cell membrane.
- High sensitivity: GelStain provides high sensitivity, which can detect low amount of DNA even at 10-20 ng.
- Exceptional stability: GelStain can be heated or microwaved.
- Signal to noise ratio: Strong fluorescent signal from samples, weak from background.
- Like EB, GelStain can be used before electrophoresis gel or after electrophoresis. No destaining is needed.
- No optical setting change: standard EB filter and SYBR filter can be used.
- The optimal excitation is obtained with UV wavelength approximately at 300 nm.

Staining Protocols

1. Post-Staining Protocol

- Run gels according to standard protocols.
- Dilute GelStain 10,000× stock solution 3,300 fold to make a 3× staining solution in H_2O. Usually 50 ml of staining solution is an adequate for one minigel(e.g. add 15 µl GelStain 10000× stock reagent and 5 ml 1 M NaCl into 45 ml H_2O).
  Note: including 0.1 M NaCl in the staining solution enhances the sensitivity, but may promote dye precipitation if reuse the gel stain.
- Place the gel in a suitable container. Add a sufficient amount of the 3× staining solution to submerge the gel.
- Agitate the gel gently at room temperature for ~30 minutes.
  Note: Optimal staining time may vary depending on the thickness of the gel and the percentage of agarose. For most agarose gel, use 30 minutes staining.
- Destaining is not required, but the gel can be washed with water to reduce background if necessary.
- Staining solution can be reused at least 2-3 times. Store staining solution at room temperature protected from light.

2. Precast Protocol for Agarose Gels

- Prepare agarose gel solution using standard protocols. Note: the precast protocol is not recommended for polyacrylamide gels. Polyacrylamide gels can be stained using the post-stain protocol.
- Dilute the GelStain 10,000× stock reagent into the molten agarose gel solution at 1:10,000 and mix thoroughly(e.g. add 1 µl GelStain stock reagent for per 10 ml agarose gel solution). GelStain can be added while the gel solution is still hot.
- Cast the gel and allow it to solidify.
- Load samples and run the gels using standard protocols.
- Unused agarose containing GelStain can be remelted to prepare more gels. In that case, we suggest to add more GelStain dye to the agarose. Unused agarose containing GelStain can be stored at room temperature for a few days.

FOR RESEARCH USE ONLY