Green DNA Gel Stain

Cat. No.	Description	Size
GGS01-01	Green DNA Gel Stain (1:10,000)	1 ml
GGS01-02	Green DNA Gel Stain (1:10,000)	5x1 ml

Green DNA Gel Stain is a new generation of fluorescent nucleic acid gel stain designed to replace the highly toxic ethidium bromide (EtBr). The Ames test confirmed that Green Gel Stain are non-mutagenic at concentrations well above their working concentrations used for gel staining. Green Nucleic Acid Gel Stain are highly sensitive than EtBr either as precast gel stains or post gel stains.

Green DNA Gel Stain has UV absorption between 250nm and 300nm and a strong absorption peak centered around 500nm and is compatible with either a 254nmUV blue LED transilluminator or a gel reader equipped with visible light excitation (such as a 488nm laser-based gel scanner or a Dark Reader).

Green DNA Gel Stain is a concentrated solution (10,000X in DMSO) that can be diluted 10,000 times for use in precast gel staining or ~3,300 times for use in post gel staining. The staining doesn't affect downstream applications such as gel extraction and cloning.

Features

- **Safety:** Non-mutagenic and noncytotoxic
- **Easy disposal**: Safe to be disposed as regular trash
- **Compatibility:** Spectrally compatible with all the existing instruments
- **Sensitivity**: Stronger signal but lower background
- **Stability:** Stable at room temperature and microwavable

Storage: 4ºC. Stable at room temperature

Protocol

1. Prepare melted agarose gel solution using your standard protocol.
2. Dilute the Green DNA Gel Stain into the melted agarose gel solution at 1:10,000 and mix thoroughly (For example, add 5µl gel stain to 50 ml melted) agarose. Green gel stain can be added while the gel solution is still hot.
3. Cast the gel and allow it to solidify. Any leftover gel solution may be stored and reheated later for additional gel casting. The precast gels may be stored at 4°C for later use.
4. Load samples and run the gels using your standard protocol.
5. Image the stained gel with a 254nm transilluminator, a Dark Reader or a similar transilluminator or a laser-based gel scanner using a long path green filter such as a SYBR filter or GelStar filter.

Post-staining Protocol

1. Run gels as usual according to your standard protocol. Dilute the Green DNA Stain ~3,300 fold to make a 3x staining solution in H_2O with 0.1M NaCl. (e.g., add 5ul Red Nucleic Acid Stain and 5ml 1M Nacl to 45ml H_2O). ***Note**: including 0.1M NaCl in the staining solution enhances sensitivity, but will promote dye precipitation if the gel stain is reused. (This solution can be reused 2~3 times protected from light).*
2. Carefully place the gel in a suitable polypropylene container. Gently add sufficient amount of the 3x staining solution to submerge the gel.
3. Agitate the gel gently at room temperature for~30 minutes. The tensity of the stain depends on the thickness of the gel and the percentage of the agarose with gently shaking. For thicker gels, stain for longer.
4. Rinse the gel with water, which can reduce the background.
5. Image the stained gel with a 254nm blue LED transilluminator, a Dark Reader or a similar transilluminator or a laser-based gel scanner using a long path green filter such as a SYBR filter or GelStar filter.
6. Staining solution can be reused at least 2~3times. Store staining solution at room temperature protected from light.

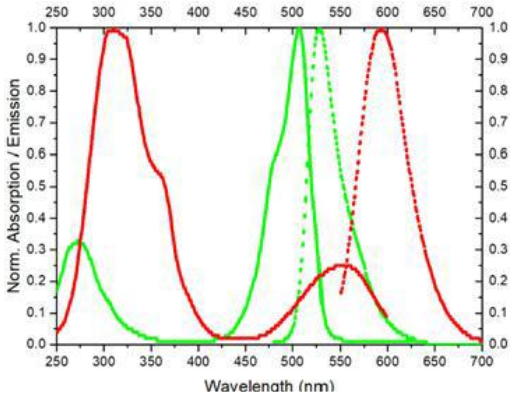

Figure 1. Excitation and emission spectra of Green DNA gel stain (green lines) and Red nucleic acid stain (red lines)

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