GreenR™ Dye

Product Datasheet

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Product Details	Storage & Handling
Product: GreenR™ Dye (10,000X)	Store at 15–25°C.
Catalogue No:	Protect from direct sunlight.
PCRD10 — 500 µL	
PCRD10-S — 50 µL	

Ultra-sensitive stain for nucleic acids

Developed jointly by CSIR-CDRI and Biotech Desk Pvt. Ltd. | Patent # IN202211040311

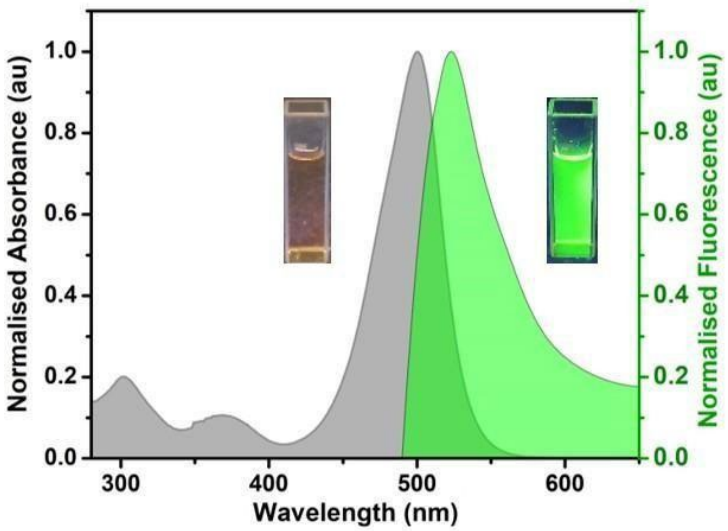
Introduction

GreenR™ Dye is a 10,000X concentrate for staining genomic DNA, PCR products, plasmids and RNA. Nucleic acids stained with GreenR™ can be visualized using blue-light or UV excitation. The supplied product information describes detection sensitivity comparable with SYBR Green and suitability for dye-based qPCR and RT-qPCR. It also states that no special hazardous-waste disposal procedure is required.

Spectral Properties

Excitation maximum: 495 nm | Emission maximum: 523 nm (in DMSO).

GreenR™ Dye is less fluorescent in DMSO solution; fluorescence increases upon binding to DNA or RNA.



Representative absorption and fluorescence spectra (source figure).

Applications

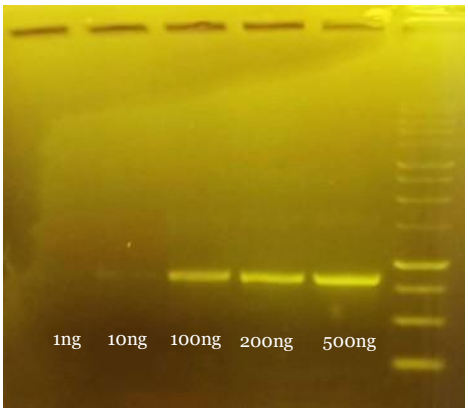
Post-electrophoresis gel staining, pre-electrophoresis nucleic-acid staining, agarose gel precasting, and dye-based PCR applications, as described in the original product protocol.

Protocol for Precast Agarose Gel Staining

1. **Preparation of Agarose Gel:** Add 5 µL of GreenR™ Dye (10,000X) to 50 mL of molten agarose gel solution. Mix thoroughly to ensure uniform distribution of the dye. Adjust the dye volume proportionally if preparing larger gel volumes.
2. **Gel Casting:** Pour the agarose solution into the gel casting tray and allow it to cool and solidify completely. Preferably, cast the gel in a dark area or protect it from direct light.
3. **Gel Electrophoresis:** Once the gel has solidified, carefully place it in the electrophoresis tank containing the appropriate 1X running buffer (TAE or TBE).
4. **Sample Loading:** Mix the DNA or RNA samples with an appropriate loading dye and carefully load them into the gel wells.
5. **Electrophoresis:** Perform electrophoresis following the standard laboratory procedure appropriate for the nucleic acid samples.
6. **Visualization:** After electrophoresis, visualize and photograph the stained DNA or RNA bands using a UV or blue-light transilluminator.

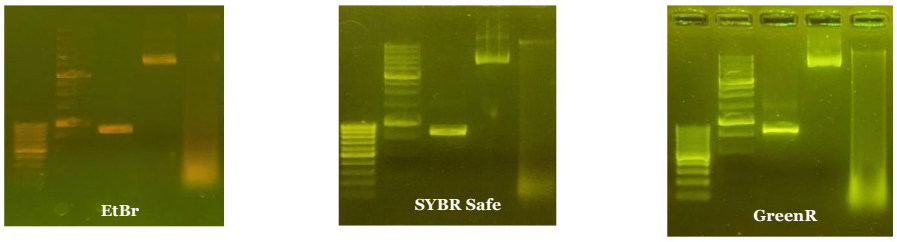
Note: GreenR™ Dye is incorporated directly into the agarose gel before electrophoresis; therefore, no additional post-electrophoresis staining step is required.

GreenR™ Sensitivity Test



Different quantities of DNA on a 1% agarose gel, stained with GreenR™ Dye.

GreenR™ Comparison Study



1% agarose gels stained after electrophoresis: ethidium bromide (left), third-party SYBR Green (middle), GreenR™ Dye (right).

Storage & Handling

- Store the 10,000X GreenR™ Dye concentrate at 15–25°C.
- Keep the product protected from direct sunlight.
- Protect prepared solutions from light; follow the preparation-specific storage instructions.