Product Specification

Product:	BB Gel-Red Plus, 10000X, DNA Staining Agent
Product Code:	BPR00500
Formula:	N/A
MW:	N/A
CAS#:	N/A

Catalog Number	Size	Concentration
BPR00500	500µl (10,000X in H_2O)	1:10,000 dilution in H_2O, TE, TAE or TBE buffer

Description

BB Gel-Red Plus is a novel DNA-binding dye which ensures high sensitivity and quality. Compared with Ethidium bromide (EtBr), BB Gel-Red Plus is a more responsive DNA staining reagent under the UV transillumination and is one of the most sensitive staining agent for detecting dsDNA on the agarose gel with low background noise. BB Gel-Red Plus is also stable as it does not degrade during the electrophoresis process (Pre-staining method). It also only requires 30mins of post-staining and can be immediately visualized under UV without any detaining or washing. This dye is designed to have minimal effects on the DNA migration pattern as compared to other dyes such as SYBR Green. In addition, the BB Gel-Red Plus is more reliable and safe as compared to EtBr as it does not penetrate the cell membrane. The BB Gel-Red Plus is compatible for both agarose and polyacrylamide gel electrophoresis; can be used for dsDNA, ssDNA or RNA staining. Compatible with downstream application such as Gel extraction/purification, sequencing and cloning.

Storage

Up to 24 months at 18-25°C, Protect from light

Kit Content(s)

BB Gel-Red Plus, 10000X, DNA Staining Agent	500µl (10,000X in H_2O)

Instrument Compatibility

UV transilluminator documentation system (Optimum sensitivity); Blue Light transilluminator has lower sensitivity due to different excitation wavelength

Reaction Setup

Pre-Electrophoresis DNA Staining / In-Gel DNA Staining

1. Prepare molten agarose gel solution using your standard protocol.
2. Dilute BB Gel-Red Plus 10,000X with the molten gel solution (e.g. 5µl of BB Gel-Red Plus to 50ml of agarose gel solution) and mix well prior to pouring into the gel container.

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Cool the molten agarose gel until it can be handled by hand. (Due to high thermal stability of BB Gel-Red Plus, it can be added directly into the hot molten gel out of the microwave)

3. Perform electrophoresis as per preferred settings (duration and voltage).
   BB Gel-Red Plus is compatible with all commonly used electrophoresis buffer (e.g. TAE, TBE & TE)
4. Image the gel with the UV documentation system.

NOTE: 1) The Pre-Electrophoresis method is not suitable for polyacrylamide gels. Please use the Post-Electrophoresis method for polyacrylamide gels. 2) If the migration pattern is not optimal, as part of the troubleshooting, perform the Post-Electrophoresis method to check if that is due to the effects of the Gel-Red Plus dye. If the issue persists, consider optimizing agarose concentration and electrophoresis conditions (duration and voltage) to achieve the preferred migration pattern.

Post-Electrophoresis DNA Staining

1. Perform electrophoresis as per preferred settings (duration and voltage).
2. Dilute the stock BB Gel-Red Plus reagent with the ratio 1:10,000. Stock stain can be diluted in H_2O, or TE, TAE or TBE buffer.
3. Carefully cover the gel with the staining solution and incubate at the room temperature for approximately 30 minutes. Use a plastic container. Do not use a glass container since it will adsorb the dye in the staining solution. Protect the staining container from light by covering it with the aluminum foil or place it in the dark. Agitate the gel gently at the room temperature. Staining time will vary with the thickness of the gel and the agarose percentage. No destaining is required. The staining solution may be stored in the dark and at the low temperature and be reused up to 3 times.
4. Capture the gel image with UV documentation system. It is important to clean the surface of the documentation system before / after each use with the deionized water and a soft cloth. Otherwise, fluorescent dyes may accumulate on the glass surface and cause a high fluorescent background.

Troubleshooting

Problem	Cause	Solution
Low sensitivity	Wavelength may not be right	Check the fluorescence excitation and emission wavelengths. For blue light transilluminator documentation system, please swap to BB Neo Green Plus DNA Staining Reagent (20000X) (BPR00300) for optimal sensitivity
	Dilution ratio may not be right.	Check the dilution ratio in the 10,000-fold dilution.

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