Novel Green DNA Staining Reagent

Catalogue No.:abx299721

Novel Green DNA Staining Reagent provides a 2-step method to stain DNA bands in DNA electrophoresis. It has higher sensitivity under UV transillumination, and is less mutagenic compared with ethidium bromide. It is provided as a 20,000X concentrated reagent in DMSO and is compatible with TAE (40 mM Tris-acetate, 1 mM EDTA, pH 8), TBE (89 mM Tris base, 89 mM boric acid, 1 mM EDTA, pH 8), and TE (20 mM Tris base, 1 mM EDTA, pH 8) buffers. When excited at 248 nm, the fluorescent emission maxima of the Novel Green reagent is centred at 524 nm (after binding to DNA). The 10 × 50 ml size contains 5 × 50 ml Vial A (TMB in DMSO) and 5 × 50 ml Vial B (Sodium perboratetetrahydrate).

Target:	Novel Green DNA Staining Reagent
Tested Applications:	SDS-PAGE
Storage:	Can be stored at room-temperature for short term storage. For long-term storage, aliquot store at -20 °C.
Buffer:	Dimethyl sulfoxide (DMSO).
Note:	THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC, THERAPEUTIC OR COSMETIC PROCEDURES. NOT FOR HUMAN OR ANIMAL CONSUMPTION.

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Directions for use: Before opening the vial, bring to room temperature (ensure the solution has completely thawed and is homogeneous). After thawing, centrifuge the vial to bring the DMSO solution to the bottom of the vial.

Post-Electrophoresis DNA Staining

1. Perform electrophoresis on an agarose gel.
2. Dilute the stock Novel Green reagent 1/20,000 in TE, TAE or TBE buffer. If the staining solution is diluted in water, it should be used within 24 hours. Using buffered solution may increase the stability of the fluorescent staining dye.
3. Cover the gel with the staining solution and incubate at the room temperature for 10-30 minutes. Use a plastic container. Do not use a glass container since it will adsorb much of the dye in the staining solution. Protect the staining container from light by covering it with the aluminium 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 for a week or more.
4. Photograph the gel with UV or blue-light transilluminator. It is important to clean the surface of the transillumuntor before and after each use with deionised water and a soft cloth. Otherwise, fluorescent dyes may accumulate on the glass surface and cause a high fluorescent background. Video cameras and CCD cameras have a different spectral response than the black and white print film, thus it may not exhibit the same degree of sensitivity.

Pre-Electrophoresis DNA Staining / In-Gel DNA Staining

1. Prepare molten agarose gel solution using a standard protocol.
2. Dilute Novel Green reagent 1/20,000 with the molten gel solution and mix well. Pour the mixture into the gel container. Cool the molten agarose gel until it can be handled by hand. The casted gel with Novel Green Gel Stain will have a slight yellow appearance which is correlated to the dye strength. Casted gels are stable for 3 days when stored at 4 °C in the dark. After three days, the sensitivity will decrease daily.
3. Perform electrophoresis on an agarose gel, avoiding exposure to light. The recommended voltage is 4–10 V/cm (distance between the anode and cathode). Avoid using high voltage during electrophoresis, as high voltage causes excess heat and affects the dye adversely. During electrophoresis, the staining dye runs toward the anode, therefore DNA bands with smaller molecular weights may be weaker in intensity due to less staining dye.
4. Image the gel with the UV or blue-light transilluminator.

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