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## Glow-Green Nucleic Acid Buffer

CATALOG NUMBER: SB-120-0010, 1 ml (20,000x)

### APPLICATION

- Visualization of DNA bands as they separate during agarose gel electrophoresis;;
- Isolation of DNA fragments for subcloning without introducing mutations normally caused by EB and ultraviolet.

### DESCRIPTION

Glow-Green is an environment safe non-EB nucleic acid stain used for detecting double-stranded DNA, single-stranded DNA, and RNA in agarose gels. This new stain has two fluorescence excitation maxima when bound to nucleic acid, one centered at approximately 290nm and one at approximately 490nm.

Glow-Green is as sensitive as EB; compared to EB known as a strong mutagen, Glow-Green causes much fewer mutations in the Ames test. In addition, Glow-Green has a negative test in mouse marrow chromophilous erythrocyte micronucleus test and mouse spermary spermatocyte chromosomal aberration test. Glow-Green is an environment-friendly non-EB stain for detecting nucleic acid in agarose gels, especially when isolating DNA fragment for subcloning. However, it is strongly recommended to wear gloves when handling solution or gels containing Glow-Green stains.

### CONTENTS

1 ml (20,000x), sufficient to prepare 20 liter agarose gel running buffer.

### STORAGE CONDITION

Store at room temperature in dark.

### Protocol

1. Prepare 100 ml of agarose gel solution (concentration from 0.8~2.0%) in a 250 ml flask and mix it thoroughly. Place the flask in the microwave, heat on high until the solution is completely clear and no small floating particles are visible (about 2~3 minutes).
2. Add 5-10  $\mu$ l of Glow-Green Stain to the gel solution. Swirl the flask gently to mix the solution and avoid forming bubbles.
3. While the gel solution cools below 50°C, pour it into the gel tray until the comb teeth are immersed about 1/4~1/2 into the gel solution.
4. Allow the agarose gel to cool until solidified. Load samples on the gel and perform

Electrophoresis with 1 x Glow-Green buffer.

5. Detect the bands under UV illumination.

### Notes

- 1) The thickness of gel should be less than 0.5 cm since thick gels may decrease sensitivity.
- 2) Repeated melting of gels containing Glow-Green may result in low sensitivity.
- 3) Glow-Green allows visualization of DNA (>50 ng) in the agarose gel under visible light. This eliminates the need for exposure to UV light, which can nick and damage DNA. The intact DNA fragments purified from agarose gel can increase the efficiency of subsequent molecular biology manipulations such as cloning, transformation and transcription.
- 4) Although it is noncarcinogenic, Glow-Green may irritate skin and eyes.

**The agarose gel indicates the sensitivity of Glow-Green is equivalent to that of EB.**

