EZ Safe-Stain DNA Loading Buffer

CATALOG NUMBER: DG-120-0010, 1ml (6x)

DESCRIPTION

EZ Safe-Stain is an environment safe non-EB nucleic acid stain used for detecting double-stranded DNA in agarose gels. EZ Safe-Stain is supplied in 6x DNA loading buffer which contains three tracking dyes (Bromophenol Blue, Xylene Cyanol FF, and Orange G).

EZ Safe-Stain is as sensitive as EB; compared to EB known as a strong mutagen, EZ Safe-Stain is a non-mutagenic stain. EZ Safe-Stain is an environment-friendly non-EB stain for detecting nucleic acid in agarose gels, especially when isolating DNA fragment for subclonning.

APPLICATION

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

CONTENTS

1 ml (6x) in DNA loading buffer.

STORAGE CONDITION

Store at 4 ^{o}C in dark, stable for one year from the date of shipment. For long term storage: -20 ^{o}C.

Protocol

1. Prepare agarose gel in 1x TBE or 1x TAE (or use a precast agarose gel).
2. Mix well the 6x EZ Safe-Stain DNA loading buffer prior to use.
3. Add 1x EZ Safe-Stain DNA loading buffer to DNA samples or DNA ladders, and then proceed directly to sample loading.
4. Run the agarose gel.
5. Monitor the DNA migration under blue light or with a blue light monitor.
6. Document the image under the UV light. We recommend not using UV light if the DNA fragments are to be used for subsequent cloning or sequencing.

Notes

1) The thickness of gel could affect the gel sensitivity.
2) EZ Safe-Stain allows visualization of DNA in the agarose gel under blue 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, sequencing, transformation and transcription.

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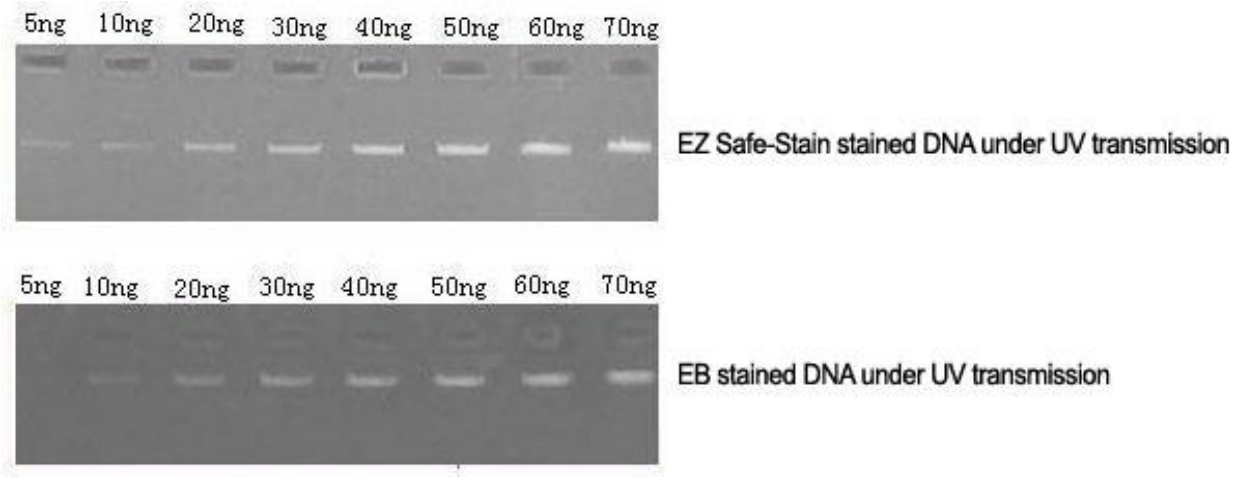

Figure 1. DNA agarose gel image. The sensitivity of EZ Safe-Stain is equivalent to that of EB.

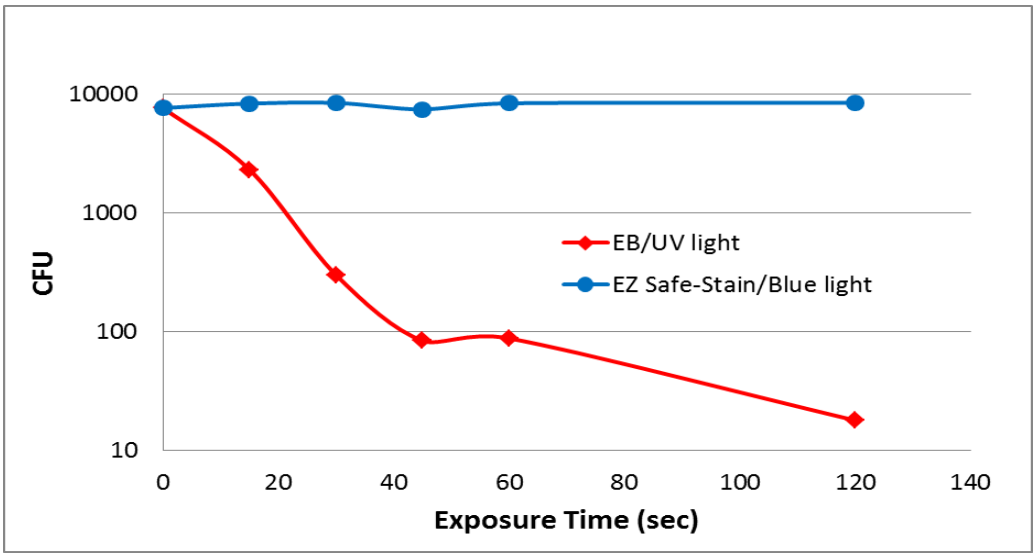

Figure 2. Colony Formation Test. PCR fragments separated on agarose gels containing EZ Safe-Stain or EB were exposed to Blue light or UV for various amounts of time, and then used for subcloning. The result indicate that even a brief EB/UIV treatment will cause significantly fewer CFUs (Colony Formation Units).

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