Sybr Safe DNA Gel Stain

Description

SYBR Safe DNA gel stain has been specifically designed for reduced mutagenicity, making it safer to replace the highly toxic ethidium bromide (EtBr) for staining DNA in agarose or acrylamide gels. SYBR Safe DNA gel stain showed no or very low mutagenic activity at concentrations well above working concentrations used for gel staining. Sybr Safe Nucleic Acid Gel Stain is highly sensitive than EtBr either as precast gel stains or post gel stains.

DNA bands stained with SYBR Safe DNA gel stain can be detected using a standard UV transilluminator, a visible-light transilluminator, or a laser-based scanner. The stain is also suitable for staining RNA in gels

Sybr Safe Nucleic Acid Gel Stain 10,000X in DMSO is a concentrated Sybr Safe solution that can be diluted 10,000 times for use in precast gel staining for ~3,300 times for use in post gel staining according to the procedures described below. One vial(0.5ml) of 10,000X solution can be used to prepare at 100 precast minigels or post-stain at least 100 minigels.

Gel staining with Sybr Safe is compatible with downstream applications such as gel extraction and cloning. Sybr Safe is efficiently removed from DNA by phenol/chloroform extraction and ethanol precipitation.

Bound to nucleic acids, Sybr Safe DNA Gel stain has fluorescence excitation maxima at 280 and 502 nm, and an emission maximum at 530 nm

Storage

Store the SYBR Safe DNA gel stain at any temperature between 2 to 25°C. It must be completely thawed and mixed if the SYBR Safe is frozen at low temperatures before using. Repeated freeze-thawing has minimal impact on product performance. SYBR Safe DNA gel stain showed no or very low mutagenic activity.

Features

- Safety: Nearly nonmutagenic and noncytotoxic
- Easy disposal: Safe to dispose in the drain
- Compatibility: Spectrally compatible with existing instruments
- Sensitivity: Higher signal but lower background
- Stability: can be stored at RT and microwavable

Post-staining Protocol

1) Run gels as usual according to your standard protocol.
2) Dilute the Sybr Safe 10,000X stock reagent~3,300 fold to make a 3X staining solution TAE or TBE buffer prior to use.
3) Carefully place the gel in a suitable polypropylene container. Gently add a sufficient amount of the 3X staining solution to submerge the gel.
4) Agitate the gel gently at room temperature for~30 minutes.
5) Image the stained gel with a 254nm transilluminator, a Dark Reader or a similar transilluminator, or a laser-based gel scanner using a long path green filter such as a SYBR filter or GelStar filter.
6) Staining solution can be reused at least 2~3times. Store staining solution at room temperature protected from light.
7) Stained gels can be viewed using a standard 300 nm transilluminator, a 254 nm epi- or transilluminator, or a blue-light transilluminator

Pre-cast Protocol

1) Prepare molten agarose gel solution using your standard protocol.
2) Dilute the Sybr Safe 10,000X stock reagent into the molten agarose gel solution at 1:10,000 and mix thoroughly. Sybr Safe can be added while the gel solution is still warm (50~60°C). For example if you run TBE gels and require 30 mL of molten agarose for your tray, add 3 μL of 10,000X SYBR Safe stain concentrate to 30 mL of 1X TBE.
3) Cast the gel and allow it to solidify. Any leftover gel solution may be stored and reheated later for additional gel casting Sybr Safe precast gels may be stored at 4°C for later use.
4) Load samples and run the gels using your standard protocol.
5) Image the stained gel with a 254nm transilluminator, a Dark Reader or a similar transilluminator or a laser-based gel scanner using a long path green filter such as a SYBR filter or GelStar filter.
6) Stained gels can be viewed using a standard 300 nm transilluminator, a 254 nm epi- or transilluminator, or a blue-light transilluminator.

Note: The pre-cast protocol is not recommended for polyacrylamide gels.

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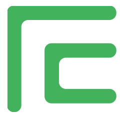

Sybr Safe 核酸染料（10,000× 水溶液）

产品描述

Sybr Safe是北京富百科生物技术有限公司开发的新型无毒核酸染料与Life Technology 公司结构一摸一样。这种独特的油性分子是花菁染料，不易挥发升华、不易吸入人体，且在凝胶染色浓度下没有诱变性，具有使用安全、检测灵敏等特点，可以作为各种核酸电泳的染色剂，适用于各种片段大小染色。与标准凝胶成像系统和可见光激发的凝胶观察装置完美兼容，适用于紫外凝胶成像系统或蓝色可见光激发的凝胶观察装置。本公司提供的Sybr Safe荧光染料为浓缩的10,000.染料。

产品特点：

1.安全无毒：独特的油性大分子特点使其不能穿透细胞膜进入细胞内，该染料的诱变性远小于EB。

2.灵敏度高：适用于各种大小片段的电泳染色，对核酸迁移的没有任何影响。

3.稳定性高：适用于使用微波或其它加热方法制备琼脂糖凝胶；室温下在酸或碱缓冲液中极其稳定，耐光性强。

4.信噪比高：样品荧光信号强，背景信号低。

5.操作简单：在预制胶和电泳过程中不降解,可直接用可见光凝胶透射仪观察。

6.适用范围广：可选择电泳前染色（胶染法）或电泳后染色（泡染法）；适用琼脂糖凝胶或聚丙烯酰胺凝胶电泳；可用于 dsDNA、ssDNA 或RNA 染色。

7.完美兼容：适用于使用254nm 激发的紫外凝胶成像系统或蓝色可见光激发的凝胶观察装置。它和SYBR Green 的光谱相似，灵敏度相当，但更加稳定。

产品包装： 10,000x Sybr Safe Nucleic Acid Dye 500uL　　**储存条件：** 2-8℃避光干燥可保存12个月。

操作步骤：

一、琼脂糖凝胶电泳染色（推荐方法）

将Sybr Safe Nucleic Acid Dye加入凝胶中

1. 制胶：按常规操作，制备琼脂糖凝胶，加入浓缩的10,000x Sybr Safe Nucleic Acid Dye，使其在凝胶中的终浓度为1x（例如：制备50ml的凝胶，加入染料5μl），轻轻摇匀，倒胶。
2. 按常规方法电泳，观测结果（染料不会影响使DNA迁移！）。

二、泡染法

1. 按照常规方法进行电泳。
2. 用H_2O将10,000x Sybr Safe Nucleic Acid Dye储液稀释约3,300倍到0.1M 的TAE或者TBE中，制成3x染色液。
3. 将凝胶小心地放入合适的容器中，如聚丙烯容器中。缓慢加入足量的3x染色液浸没胶。室温振荡染色30min左右。
4. 在凝胶成像仪内，观测结果

注意事项： 请务必在使用本试剂盒之前阅读此注意事项。

1. 由于Sybr Safe 具有良好的热稳定性，可以在热的琼脂糖溶液中直接添加，而不需要等待溶液冷却。摇晃，振荡或者翻转以保证染料充分混匀。也可以选择将Sybr Safe 储液加到琼脂糖粉末和电泳缓冲液中，然后用微波炉或其他常用方式加热以制备琼脂糖凝胶。Sybr Safe 兼容所有常用的电泳缓冲溶液。
2. 如果条带总是弥散或分离不理想，请使用泡染法染色以确认问题是否与染料有关。如果染色后问题依旧存在，则说明问题与染料无关，请尝试：降低琼脂糖浓度；选用更长的凝胶；延长凝胶时间以保证边缘清晰；改进上样技巧或选择泡染法染色。
3. Sybr Safe对玻璃器皿和非聚丙烯材料具有一定的亲合力。建议在稀释、贮存、染色等使用过程中用聚丙烯类容器。
4. 对于聚丙烯酰胺凝胶请使用泡染法。

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