QUICK GUIDE

SYBR® Safe DNA Stain

ABOUT SYBR® SAFE:

Agarose gel electrophoresis is used to separate mixtures of DNA fragments into discrete bands according to their size. However, since DNA is clear and colorless, the bands cannot be seen with the naked eye. SYBR Safe® is a fluorescent DNA stain that binds specifically to the DNA double helix. When excited with UV or blue light, any SYBR Safe® that is bound to DNA fluoresces with a bright green color. Fluorescent DNA stains like SYBR Safe® are perfect for technically challenging experiments like PCR because they are extremely sensitive, making it easy to quantify small amounts of DNA. In contrast with other fluorescent stains, SYBR Safe® has been engineered to be non-mutagenic, making it much safer to use in the classroom.

SYBR® SAFE STORAGE:
Protect from light!
Store at room temperature (<25° C) in the dark.

Safety Data Sheets can be found online:
www.edvotek.com/safety-data-sheets

TIMSTAR
Part of WF Education Group

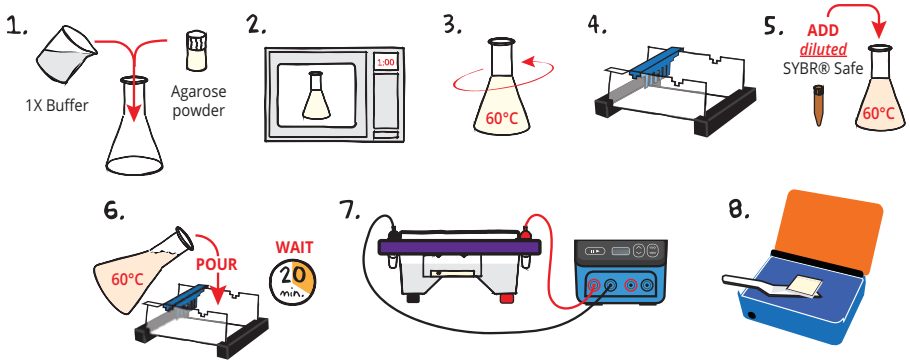
EDVOTEK®

METHOD I: IN-GEL STAINING PROTOCOL *(Preferred Method)*

This fast, easy staining protocol incorporates SYBR® Safe into the molten agarose before the gel is poured into the casting tray. This means that the DNA is staining while the electrophoresis experiment is running! Results can be visualized immediately post electrophoresis.

SYBR® Safe is provided as a 10,000X concentrate. Be sure to dilute the SYBR® Safe before adding to the molten agarose (as specified in your experimental protocol).

Agarose gels may be prepared in advance and stored for later use. Place the gels in a plastic container and cover with 1X Electrophoresis Buffer containing SYBR® Safe at a 1:10,000 dilution. Store in the dark at 4°C for up to a week.



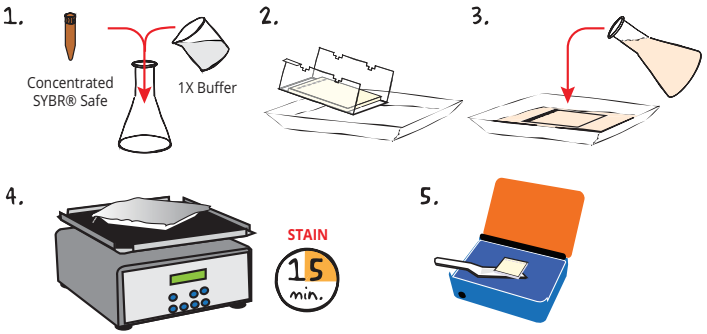
1. **MIX** 1X buffer and agarose powder as specified in your experimental protocol.
2. **DISSOLVE** agarose powder by boiling the solution. **MICROWAVE** the solution on high for one minute. Carefully **REMOVE** the flask from the microwave and **MIX** by swirling the flask. Continue to **HEAT** the solution in 15-second bursts until the agarose is completely melted (the solution should be clear like water).
3. **COOL** the molten agarose to 60°C with careful swirling to promote even dissipation of heat.
4. **PREPARE** gel-casting tray while the gel is cooling.
5. Before casting the gel, **ADD** diluted SYBR® Safe to the molten agarose and swirl to mix well. The agarose solution may appear pale orange in color.
6. **POUR** the cooled agarose solution into the prepared gel-casting tray. The gel should thoroughly solidify within 20 minutes. The gel will stiffen and become less transparent as it solidifies.
7. **LOAD** samples and **PERFORM** electrophoresis as specified in your experimental protocol. ***(Note: For long gels (>10 cm), we recommend adding SYBR® Safe to the Electrophoresis Buffer at a 1:10,000 dilution to avoid dye-front migration issues. Gels under 10 cm in length should not be affected.)***
8. After electrophoresis is complete, **REMOVE** gel and casting tray from the electrophoresis chamber. Carefully **SLIDE** gel off of the casting tray onto the viewing surface of the transilluminator and turn the unit on. DNA should appear as bright green bands on a dark background.

DISPOSAL OF SYBR® SAFE:

SYBR® Safe DNA Stain is not classified as hazardous waste, thus can be safely disposed of down the drain or in the regular trash, providing convenience and reducing cost in waste disposal.

METHOD II: POST-ELECTROPHORESIS STAINING PROTOCOL

Run agarose gel(s) as usual according to your standard protocol. After the electrophoresis is completed, turn off the power, unplug the power source, disconnect the leads, and remove the cover.



1. **DILUTE** SYBR® Safe 1:10,000 by adding 7.5 µL of the concentrated stain to 75 mL of 1x electrophoresis buffer in a flask. **MIX** well.
2. **REMOVE** the agarose gel and casting tray from the electrophoresis chamber. **SLIDE** the gel off of the casting tray into a small, clean gel-staining tray.
3. **POUR** the 1x SYBR® Safe stain solution over the gel. **COVER** the gel completely with solution.
4. **COVER** the tray with foil to protect the gel from light. **STAIN** the gel for 10-15 minutes. ***(Note: For best results, use an orbital shaker to gently agitate the gel while staining.)***
5. **REMOVE** the gel from the staining solution. **SLIDE** gel off of the casting tray onto the viewing surface of the transilluminator and turn the unit on. DNA should appear as bright green bands on a dark background.

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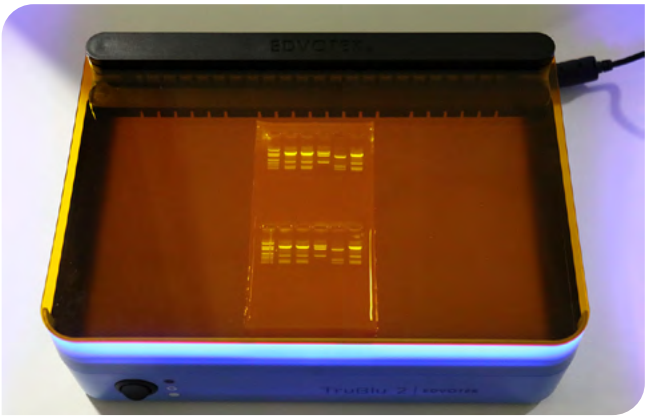
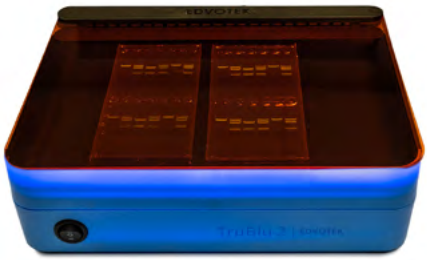


Related Products



TruBlu™ 2 Blue/White Transilluminator

Blue light enables visualization of SYBR® Safe stained DNA gels and white light enhances visualization of blue stained DNA or protein gels. The TruBlu™ 2 has enough surface area to simultaneously view up to eight 7 x 7 cm gels and combines the functions of two units into one!

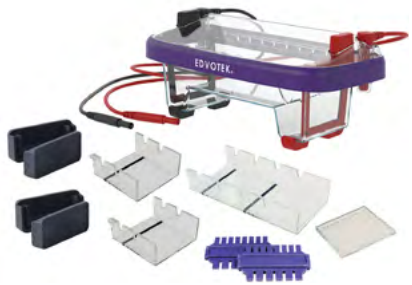
Code: BT180900

Stain Your Gels with SYBR® Safe DNA Stain

Save time, money, the environment...and get better gel results! SYBR Safe® is a DNA stain that fluoresces with a bright green color when excited with UV light. Like Ethidium Bromide, SYBR Safe® binds specifically to the DNA double helix. However, unlike Ethidium Bromide, SYBR Safe® has been engineered to be less mutagenic then Ethidium Bromide, making it much safer to use, particularly in the classroom.

10,000 x concentrate for 750 mL

Code: BT150612



M12 Complete Electrophoresis Package

Code: BT180800

M36 HexaGel Electrophoresis Apparatus

Code: BT97820

Details for all these products and MORE can be found on our website!