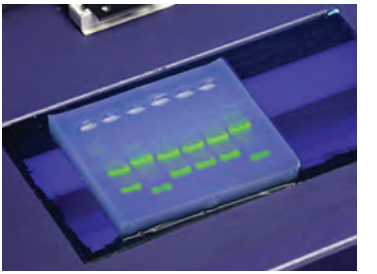
EDVOTEK® Quick Guide:
SYBR® Safe DNA Stain



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.

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.

Safety Data Sheets for SYBR® Safe DNA Stain:
http://bit.ly/sds_sybr

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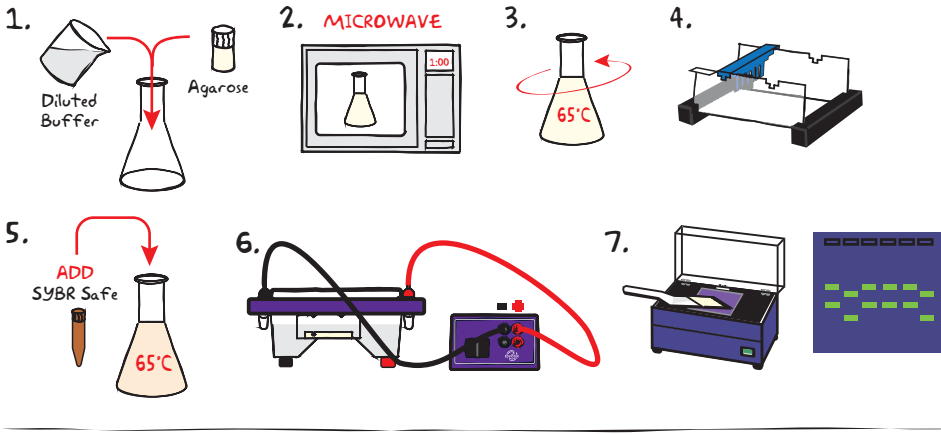
EDVOTEK® Quick Guide: SYBR® Safe DNA Stain

METHOD I: IN-GEL SYBR® SAFE DNA 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 calculate the amount used for staining before casting the gel. For example, 5 µl of SYBR® Safe is added to 50 ml of molten agarose for DNA visualization.

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** diluted electrophoresis buffer and agarose powder as specified in your experimental protocol. **DISSOLVE** agarose powder by boiling the solution.
2. **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 thirty-second bursts until the agarose is completely melted (the solution should be clear like water).
3. **COOL** the molten agarose to 65° 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** SYBR® Safe concentrate to the molten agarose and swirl to mix well. The agarose solution may appear pale orange in color.
6. **PERFORM** electrophoresis as specified in your experimental protocol. To avoid dye-front migration issues on long gels (≥10 cm), we recommend adding SYBR® Safe to the Electrophoresis Buffer at a 1:10,000 dilution. Gels under 7 cm in length should not be affected.
7. 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.

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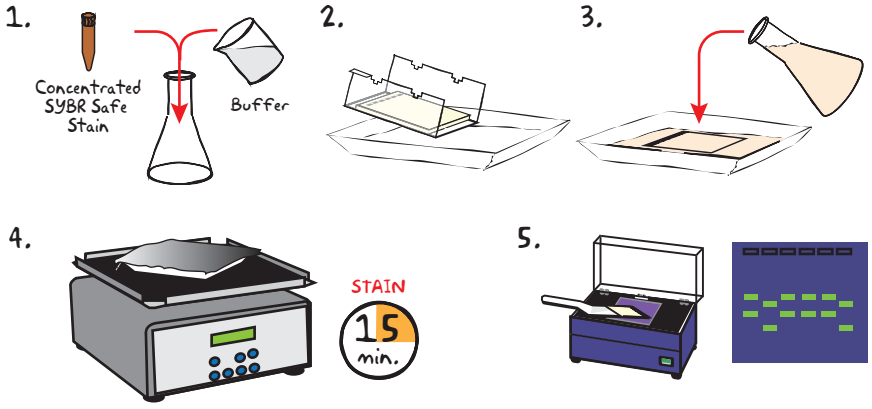
METHOD II: POST-ELECTROPHORESIS SYBR® SAFE DNA STAINING PROTOCOL

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.
4. **COVER** the tray with foil to protect the gel from light. **STAIN** the gel for 10-15 minutes. 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.

DISPOSAL of SYBR® Safe

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ONLINE TECH VIDEO FOR SYBR® SAFE DNA STAINING

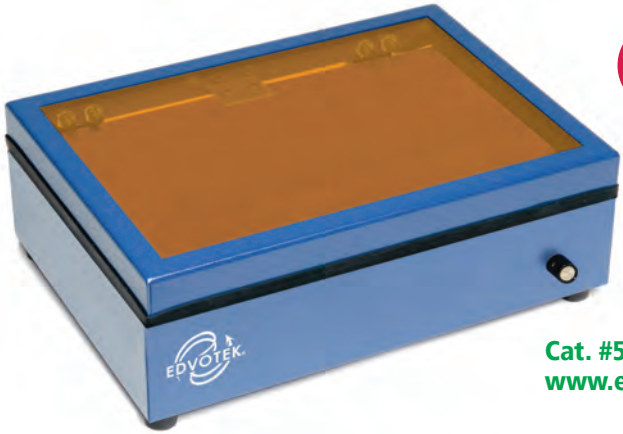
Tech Video

http://bit.ly/sybr_video

RELATED PRODUCTS

TruBlu™ Blue Light Transilluminator

The all-new TruBlu™ Blue Light Transilluminator is for viewing DNA gels stained with SYBR® Safe — eliminating the need for UV light or ethidium bromide. The large 8 x 15 cm viewing area, the high intensity control and orange lid ensure superior visualization.



NEW

Cat. #557
www.edvotek.com/557

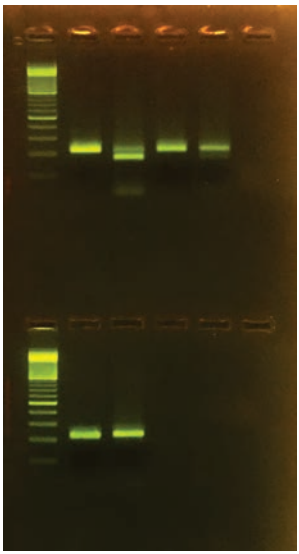
Features:

- Viewing Area: 8 x 15 cm
- Optimized for various gel sizes
- Blue Light High Intensity Control
- Orange Contrast Lid
- Most Vivid Results in Education

MADE IN THE USA

Developed in concert with the inventor of the technology under license from Clare Chemical Research, Inc.
US Patent Nos. 6,198,107, 6,512,236, 6,914,250
EP Patent No. 0 965 034

Actual results from EDVO-Kit #345 using SYBR® Safe and the TruBlu™ Blue Light Transilluminator to visualize the DNA.



Stain Your Gels with SYBR® Safe

Non-mutagenic and SAFE for the Biotechnology Classroom! As sensitive as ethidium bromide. Excellent gel results! 10,000x Concentrate for 25 7x7 cm gels or 750 ml of staining solution.

Cat. #608
www.edvotek.com/608

SYBR® Safe