

EDVOTEK® QUICK GUIDE: **Visualizing DNA**

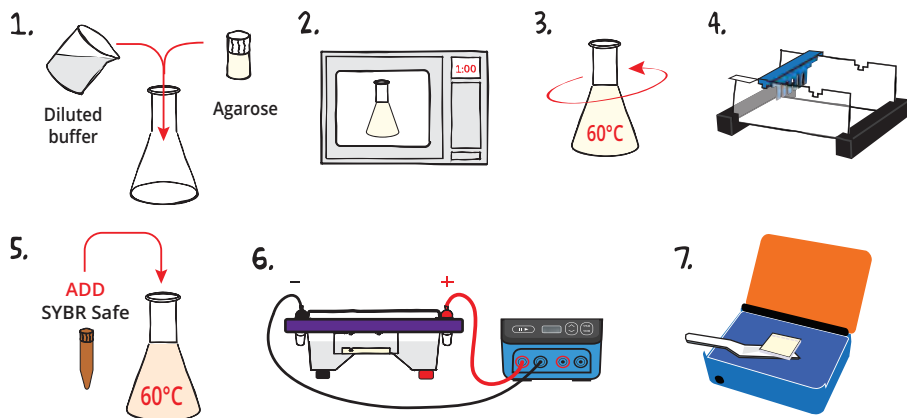


EDVOTEK®

Designed for the Classroom
SINCE 1987

In-Gel SYBR® Safe DNA Staining Protocol

SYBR Safe® is a DNA stain that fluoresces with a bright green color when excited with Blue or UV light. Similarly to Ethidium Bromide, SYBR Safe® binds specifically to the DNA double helix. Unlike EtBr, SYBR Safe® has been engineered to be less mutagenic than EtBr, making it much safer to use, particularly in the classroom.



- MIX** *diluted* electrophoresis buffer and agarose powder as specified in your experimental protocol.
- 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).
- COOL** the molten agarose to 60°C with careful swirling to promote even dissipation of heat.
- PREPARE** gel-casting tray while the gel is cooling.
- Before casting the gel, **ADD** diluted SYBR® Safe to the cooled molten agarose and **SWIRL** to mix well. **NOTE: Review your experiment instructions for SYBR® dilution guidelines.** **POUR** cooled agarose into the prepared gel casting tray and allow to solidify for approx. 20 min.
- 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.
- 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. **BE SURE TO WEAR UV-PROTECTIVE EYEWEAR IF USING A UV TRANSILLUMINATOR!**



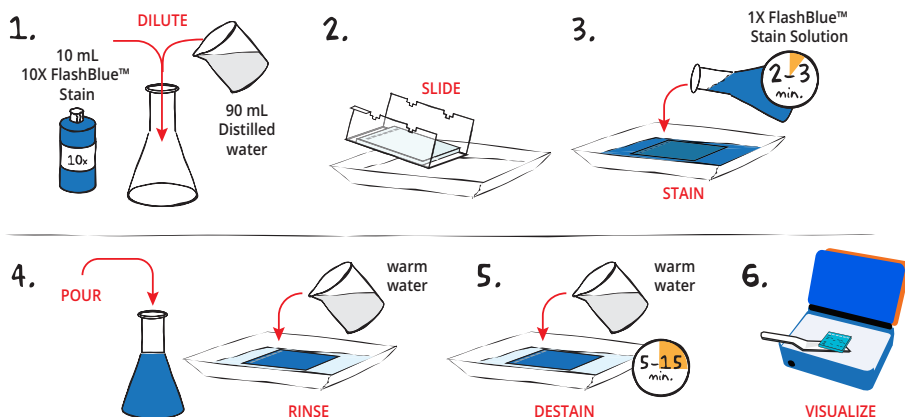
Watch our Instructional Video:
Diluting SYBR® Safe DNA Stain

<https://youtu.be/-kW3osSeuuw>



Staining Agarose Gels Using FlashBlue™

FlashBlue™ is a proprietary DNA stain that offers simple and rapid staining of agarose gels. FlashBlue™ is provided as a concentrated liquid stain that, when diluted, can be used for both rapid and overnight staining of DNA fragments.



- DILUTE** 10 mL of 10X concentrated FlashBlue™ with 90 mL of distilled water in a flask. **MIX** well.
- REMOVE** the agarose gel and casting tray from the electrophoresis chamber. **SLIDE** the gel off the casting tray into a small, clean gel-staining tray.
- COVER** the gel with the 1X FlashBlue™ stain solution. **STAIN** the gel for 2-3 minutes. For best results, use an orbital shaker to gently agitate the gel while staining. **STAINING THE GEL FOR LONGER THAN 3 MINUTES WILL REQUIRE EXTRA DESTAINING TIME.**
- POUR** the 1X FlashBlue™ back into the flask (the stain can be reused). **COVER** the gel with warm water (40-45°C). Gently **RINSE** the gel for 20-30 seconds. **POUR** off the water.
- COVER** the gel with clean, warm water (40-45°C). **DESTAIN** for 5-15 minutes with gentle shaking (longer periods will yield better results). DNA bands will start to appear after 5 minutes of destaining. Changing the water frequently will accelerate destaining.
- Carefully **REMOVE** the gel from the destaining liquid. **VISUALIZE** results using a white light visualization system. DNA will appear as dark blue bands on a light blue background.



ALTERNATIVE FLASHBLUE™ STAINING PROTOCOL:

- DILUTE** 1 mL of 10X FlashBlue™ stain with 149 mL distilled water.
- COVER** the gel with diluted FlashBlue™ stain.
- SOAK** the gel in the staining liquid for at least three hours. For best results, stain gels overnight.
- Carefully **REMOVE** the gel from the staining liquid. **VISUALIZE** results using a white light visualization system. DNA will appear as dark blue bands on a light blue background.

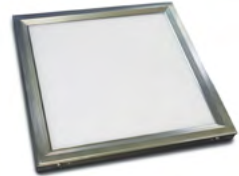
Related Products



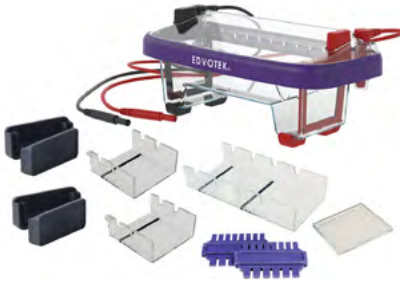
**EDGE™ Integrated
Electrophoresis
System**
Cat# 500



**TruBlu™ 2
Blue/White
Transilluminator**
Cat# 557



**White Light LED
Transilluminator**
Cat# 552



**M12 Complete™
Electrophoresis Package**
Cat# 502-504



**TruBlu™ Jr Blue Light
Transilluminator**
Cat# 555



SYBR® Safe Stain
10,000 X Concentrate for 750 mL
Cat# 608



FlashBlue™ DNA Stain
10x Concentrate for 1.2 L
Cat# 609

Details for all these products and [MORE](#) can be found on our website!

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