EDVOTEK® QUICK GUIDE: **Visualizing DNA**

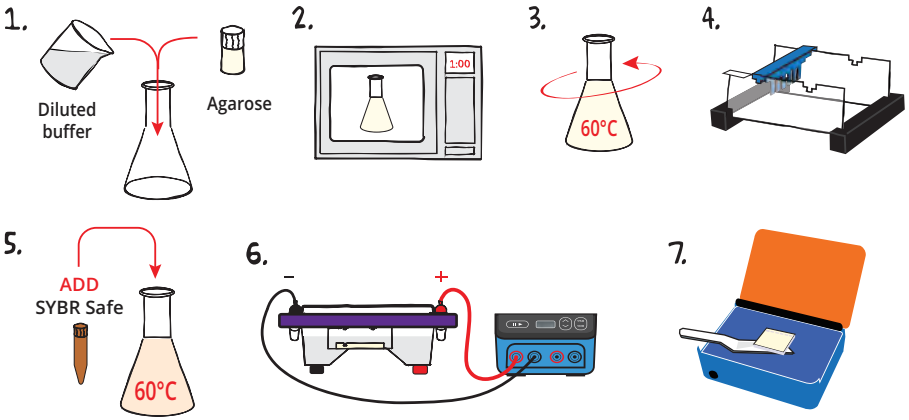
EDVOTEK®

Designed for the Classroom

SINCE 1987

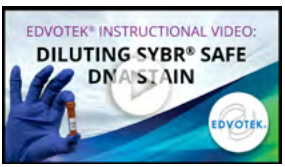
In-Gel SYBR® Safe DNA Staining Protocol

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.




Wear gloves and safety goggles

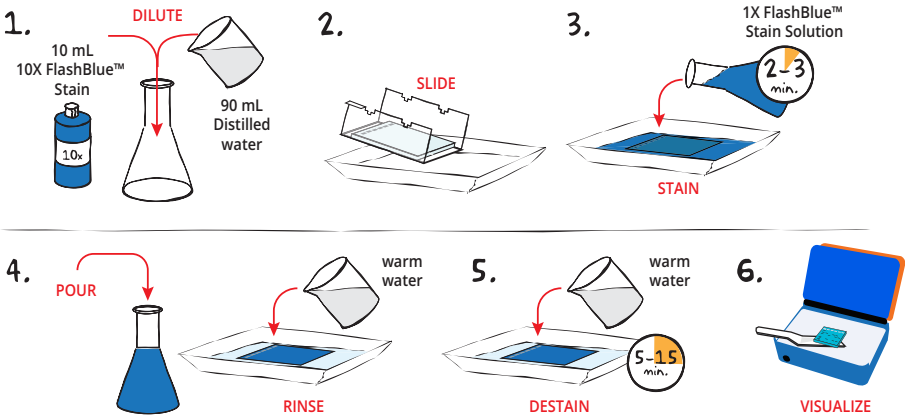
1. **MIX** ***diluted*** electrophoresis buffer and agarose powder as specified in your experimental protocol.
2. **DISSOLVE** agarose powder by boiling the solution. **MICROWAVE** the solution on high for one minute. Carefully **REMOVE** the flask from the microwave and MIX by swirling the flask. Continue 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 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.
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. ***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.



1. **DILUTE** 10 mL of 10X concentrated FlashBlue™ with 90 mL of distilled water in a flask. **MIX** well.
2. **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.
3. **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.**
4. **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.
5. **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.
6. 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.

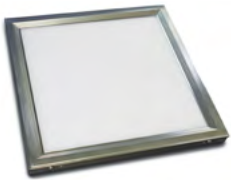
ALTERNATIVE FLASHBLUE™ STAINING PROTOCOL:

1. **DILUTE** 1 mL of 10X FlashBlue™ stain with 149 mL distilled water.
2. **COVER** the gel with diluted FlashBlue™ stain.
3. **SOAK** the gel in the staining liquid for at least three hours. For best results, stain gels overnight.
4. 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.

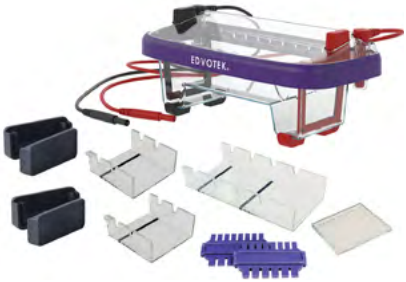
Related Products

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!

Visit our website at **www.edvotek.com**