

Product Information

SYBR Gold DNA Gel Stain, 10,000X in DMSO

Catalog Number	Packaging Size
N106	500 μ L

Storage upon receipt:

- -20°C
- Protect from light

Ex/Em: 495/537 nm, bound to DNA

Product Description

SYBR Gold is an ultra sensitive green fluorescent stain for detecting nucleic acids in agarose and polyacrylamide gels. This stain can detect as little as 25 pg of dsDNA. **SYBR Gold** is compatible with a standard 300 nm transilluminator, a 254 nm epilluminator, a blue-light transilluminator, or a gel reader equipped with visible light excitation such as a 488 nm laser-based gel scanner.

SYBR Gold Nucleic Acid Gel Stain, 10,000X is a concentrated **SYBR Gold** solution that can be diluted 10,000 times for use in precast gel staining or 5,000 times for use in post gel staining according to the procedures described below. One vial of 10,000X solution can be used to prepare at least 100 precast minigels or post-stain at least 100 minigels.

Gel staining with **SYBR Gold** is compatible with downstream applications such as gel extraction and cloning. **SYBR Gold** is efficiently removed from DNA by ethanol precipitation.

Spectral Characteristics

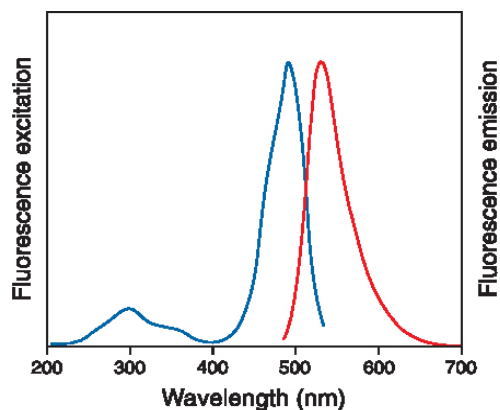


Figure 1. Excitation (blue) and emission spectra (red) of **SYBR Gold** bound to dsDNA in TBE buffer.

Staining Protocols

1. Post-staining Protocol

- 1.1 Run gels as usual according to your standard protocol.
- 1.2 Dilute the **SYBR Gold** 10,000X stock reagent 5,000 fold to make a 2X staining solution in TE, TBE, or TAE buffer.
- 1.3 Carefully place the gel in a suitable polypropylene container. Gently add enough staining solution to submerge the gel.
- 1.4 Agitate the gel gently at room temperature for 30 min.
- 1.5 Wash the gel with DI water to remove excess dye. Image the stained gel with a transilluminator, or a laser-based gel scanner using a long path green filter such as a SYBR Filter or GelStar filter.

2. Pre-cast Protocol

Note: **SYBR Gold** is highly sensitive DNA stain. If the loading amount of DNA is over 100 ng, it will affect significantly band shift. In that case, reduce DNA loading amount or switch to post gel stain is highly recommended.

- 2.1 Prepare molten agarose gel solution using your standard protocol.
- 2.2 Dilute the **SYBR Gold** 10,000X stock reagent into the molten agarose gel solution at 1:10,000 and mix thoroughly.
- 2.3 Cast the gel and allow it to solidify.
- 2.4 Load samples and run the gels using your standard protocol.
- 2.5 Image the stained gel with a transilluminator, or a laser-based gel scanner using a long path green filter such as a SYBR Filter or GelStar filter.

Note: The pre-cast protocol is not recommended for polyacrylamide gels. Use the post staining protocol for acrylamide gels.

Related Products

Cat. No	Product Name	Unit Size
N100	GreenView™ DNA Gel Stain, 10,000X in H ₂ O	500 µL
N101	GreenView™ Plus DNA Gel Stain, 10,000X in DMSO	500 µL
N102	RedView™ DNA Gel Stain, 10,000X in DMSO	500 µL
N103	GreenView™ Ultra DNA Gel Stain, 10,000X in DMSO	500 µL
N104	SYBR Green I DNA Gel Stain, 10,000X in DMSO	500 µL
N105	SYBR Green II RNA Gel Stain, 10,000X in DMSO	500 µL
N106	SYBR Gold DNA Gel Stain, 10,000X in DMSO	500 µL

Troubleshooting

Problem	Suggestion
Smear DNA bands in precast gel	<ol style="list-style-type: none">1. Reduce the amount of DNA loading. Smear bands can be caused by overloading.2. Perform post-staining instead of pre-casting.3. Prepare a lower percentage agarose gel for better resolution of large fragments.4. Change the running buffer. TBE buffer has a higher buffering capacity than TAE.
Discrepant DNA migration in precast gel	<ol style="list-style-type: none">1. Reduce the amount of DNA loading.2. Reduce the amount of dye used, i.e. use 0.5X in precast gels.3. Perform post-staining instead of pre-casting.
Weak fluorescence signal	<ol style="list-style-type: none">1. The dye may be precipitated out of solution. Vortex to redissolve.2. Increase the amount of dye used, i.e. use 2X in precast gels.

Frequently Asked Questions

Question	Answer
Can SYBR Gold be used to stain ssDNA or RNA?	Yes.
Is SYBR Gold compatible with downstream applications such as cloning, ligation and sequencing?	Yes. We recommend Qiagen or Zymo gel extraction kits or phenol-chloroform extraction to remove the dye from DNA.
Is SYBR Gold compatible with Southern or Northern blotting?	SYBR Gold has not been validated in blotting applications.
Can I reuse a SYBR Gold precast gel after electrophoresis?	We do not recommend reusing SYBR Gold precast gels as signal decreases with subsequent electrophoresis.
What is the lower detection limit of SYBR Gold?	Some users have reported being able to detect less than 25 pg DNA. However, the limit of detection will depend on instrument capability and exposure settings.
Does SYBR Gold need to be used in the dark?	You can use the dye in room light, however we recommend storing the dye in the dark.