



GreenView™ Ultra DNA Gel Stain, 10,000X in DMSO

Catalog Number	Packaging Size
N103	500 μ L

Storage upon receipt:

2-25°C

Protect from light

Ex/Em: 500/530 nm, bound to nucleic acid

User Manual

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I. Product Description

GreenView Ultra is a highly sensitive green fluorescent stain for detecting nucleic acids in agarose and polyacrylamide gels. This stain can detect as little as 50 pg of dsDNA. **GreenView Ultra** is compatible with a standard 300 nm transilluminator, a 254 nm transilluminator, a blue-light transilluminator, or a gel reader equipped with visible light excitation such as a 488 nm laser-based gel scanner.

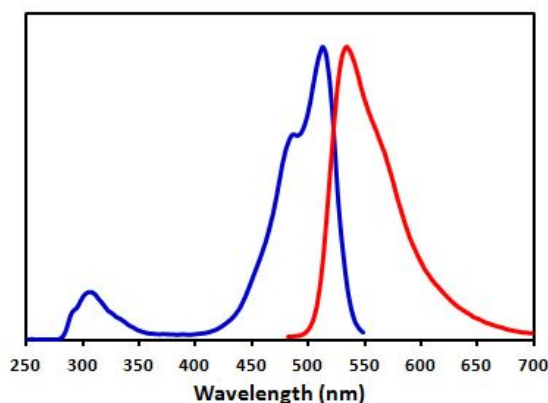
GreenView Ultra Nucleic Acid Gel Stain, 10,000X is a concentrated **GreenView Ultra** solution that can be diluted 10,000 times for use in precast gel staining or 5,000 times for use in post gel staining according to the procedures described below.

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 **GreenView Ultra** is compatible with downstream applications such as gel extraction and cloning.

GreenView Ultra is efficiently removed from DNA by phenol/chloroform extraction and ethanol precipitation.

II. Spectral Characteristics



Excitation (blue) and emission spectra (red) of **GreenView Ultra** bound to dsDNA in TBE buffer

III. Staining Protocols

1. Post-staining Protocol

1.1 Run gels as usual according to your standard protocol.

1.2 Dilute the **GreenView Ultra** 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 a sufficient amount of the 2X 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: GreenView Ultra 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.

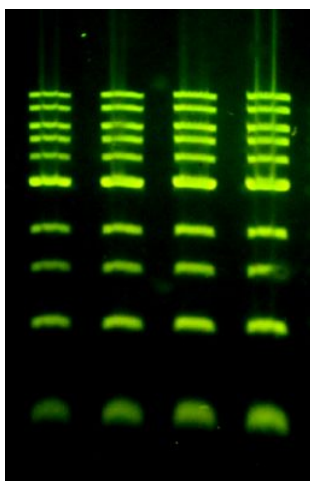
2.2 Dilute the **GreenView Ultra** 10,000X stock reagent into the molten agarose gel solution at 1:10,000 and mix thoroughly.

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.



GreenView Ultra in post gel staining

Note: Gel stain results with GreenView Ultra in post gel staining using 1% agarose gel in TBE buffer. Two-fold serial dilutions of 1 kb DNA Ladder (NEB Part #N3232S) were loaded onto each gel in 4 lanes in the amounts of 25 ng, 50 ng, 100 ng, and 150 ng (left to right). Images were taken on a UV transilluminator with 590DF100 long pass filter (Omega part#590DF100).

IV. 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

V. Troubleshooting

Problem	Suggestion
Smeared DNA bands in precast gel	<ol style="list-style-type: none"> 1. Reduce the amount of DNA loading. Smeared 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..

VI. Frequently Asked Questions

Question	Answer
Can GreenView Ultra be used to stain ssDNA or RNA?	Yes.
Is GreenView Ultra 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 GreenView Ultra compatible with Southern or Northern blotting?	GreenView Ultra has not been validated in blotting applications.
Can I reuse a GreenView Ultra precast gel after electrophoresis?	We do not recommend reusing GreenView Ultra precast gels as signal decreases with subsequent electrophoresis.
What is the lower detection limit of GreenView Ultra?	Some users have reported being able to detect less than 50 pg DNA. However, the limit of detection will depend on instrument capability and exposure settings.
Does GreenView Ultra need to be used in the dark?	You can use the dye in room light, however we recommend storing the dye in the dark.

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