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Product Information

DNAzure™ Blue Nucleic Acid Gel Stain, 100X

Catalog Number: 41020

Packaging Size: 10 mL

Storage and Handling

Store DNAzure™ Blue Nucleic Acid Gel Stain at 4 °C, protected from light. This product is stable for at least six months from the date it is received.

No safety information is available for DNAzure™ gel stain, but it is potentially harmful because it contains a DNA binding dye. Exercise universal laboratory safety precautions when handling the stain, and dispose of the stain as hazardous chemical waste according to your local regulations.

Product Description

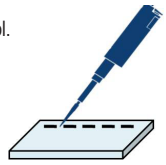
DNAzure™ Blue Nucleic Acid Gel Stain is an ultrasensitive reagent for visible staining of dsDNA in agarose gels or polyacrylamide gels. The sensitivity of this stain is comparable to fluorescent DNA gel stains. The limit of detection is 1 ng dsDNA or less. We do not recommend this stain for RNA or ssDNA.

Key to the technology is a DNA-binding dye that turns from colorless to deep blue upon exposure to bright light.

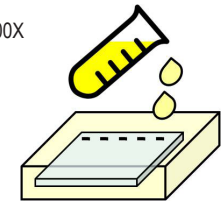
DNAzure™ Blue Nucleic Acid Gel Stain is compatible with downstream applications such as sequencing and cloning, and is efficiently removed from DNA by common gel extraction kits that utilize silica-based DNA purification columns.

Staining Workflow Quick Reference

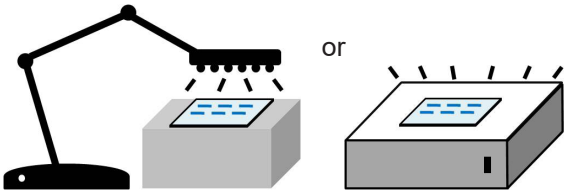
1. Run the gel according to your standard protocol.



2. Make a 1X staining solution by diluting 100X DNAzure™ Blue Nucleic Acid Gel Stain. Add the staining solution to your gel and incubate for 20-30 min in the dark.



3. Expose the gel to a bright light source for 15-90 minutes to allow development of blue bands. Place the light source as close as possible to the gel.



Staining Protocol

Gels should be stained using a post-staining protocol. It is not recommended to add DNAzure™ Blue Nucleic Acid Gel Stain to precast (molten) agarose, as the dye will affect DNA migration.

1. Run the gel as usual according to your standard protocol. TBE or TAE buffer can be used.

   Note: The presence of blue tracking dyes, such as bromophenol blue, in blue gel loading buffers, may obsure DNAzure™-stained DNA bands. We therefore recommend using loading buffers containing orange G tracking dye.

2. Carefully place the gel in a suitable container such as a polypropylene staining tray. Using either 1X TBE, 1X TAE, 1X TE, or diH_2O, dilute DNAzure™ Blue Nucleic Acid Gel Stain to 1X staining solution in sufficient buffer to submerge the gel. For example, 500 uL of 100X gel stain in 50 mL 1X TBE buffer.

3. Gently agitate the gel in the 1X staining solution for 20-30 minutes at room temperature in the dark. Optimal staining time may vary depending on the thickness of the gel and the percentage of agarose or acrylamide. The gel can be left in the staining solution overnight. Destaining is not required.

   Note: At this time, the DNA bands will not yet be visible.

4. Expose the gel to a bright light source to generate visible blue DNA bands. The gel can be kept in the staining solution during light exposure. The light source should be placed as close as possible above the gel, or below the gel if the gel tray is transparent. If preferred, the gel may be removed from the staining solution and placed directly on the light source (such as light box), however, this may cause the gel to dry out.

   Optimal light exposure time depends on the light color, brightness, and proximity to the gel. When using a bright blue light transilluminator (such as Biotium's GelBright™ LED Gel Illuminator), DNA bands may be visible after 5 minutes, with dark blue bands apparent after 15-30 min. Other light sources may be used, such as a white light transilluminator, LED table lamp, or cell phone flashlight, however these will require longer exposure times (30-90 min) for the development of dark blue bands. LED lights are recommended as these generate less heat and can therefore be placed closer to the gel.

5. Remove the gel from the staining solution and visualize on a white background or on a white light transilluminator.

6. The gel may be imaged using a camera, or a gel documentation system with a white light transilluminator. If desired, gels can be dried for long term storage, using standard methods.

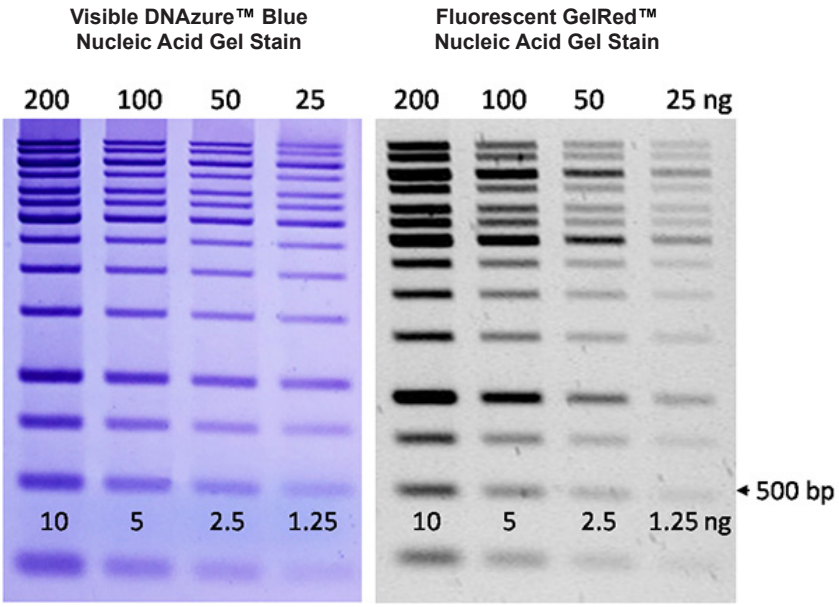


Figure 1. Biotium's 1 kb DNA ladder was loaded on a 1% agarose gel in two-fold dilutions, ranging from 200 ng to 25 ng total ladder per lane. The mass of the 500 bp band in each lane is labeled. The gel on the left was stained with DNAzure™ Blue Nucleic Acid Gel Stain for 25 minutes, and then the visible blue DNA bands were developed for 30 minutes using a blue LED transilluminator. The gel was placed on a white light transilluminator and imaged with a cell phone camera. The gel on the right was stained with 3X GelRed™ Nucleic Acid Gel Stain for 60 minutes. The gel was imaged with a UVP GelDoc-It™ Imaging System using a UV transilluminator and EtBr filter.

Related Products

Catalog number	Product
41001	GelRed™ Nucleic Acid Gel Stain, 3X in water
41003	GelRed™ Nucleic Acid Gel Stain, 10,000X in water
41005	GelGreen™ Nucleic Acid Gel Stain, 10,000X in water
41008-T	PAGE GelRed™ Nucleic Acid Gel Stain, 10,000X in water
41007-T	PAGE GelGreen™ Nucleic Acid Gel Stain, 10,000X in water
31039	1 kb DNA Ladder in TE Buffer
31040	100 bp DNA Ladder in TE Buffer
41006	TBE, 5X
31028	AccuClear™ Ultra High Sensitivity dsDNA Quantitation Kit with 7 DNA Standards
31066-T	AccuGreen™ High Sensitivity dsDNA Quantitation Kit, trial size (for Qubit®)
31041-T	Forget-Me-Not™ qPCR Master Mix, trial size
31043-T	Forget-Me-Not™ Universal Probe Master Mix, trial size
40069	PMAxx™ dye, for viability PCR
E90002	PMA-Lite™ LED Photolysis Device
E90003	Gel-Bright™ LED Gel Illuminator

Please visit our website at www.biotium.com for information on our life science research products, including environmentally friendly EvaGreen® qPCR master mixes, fluorescent CF™ dye antibody conjugates and reactive dyes, apoptosis reagents, fluorescent probes, and kits for cell biology research.