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Product Information

Ethidium Bromide, 10 mg/mL in H_2O

Catalog Number: 40042

Unit Size: 10 mL

Storage and Handling
Store the the solution at 4°C, protected from light. Product is stable for at least 5 years from date of receipt when stored as recommended. Ethidium bromide is a known potential mutagen. It should be handled and disposed of using laboratory safety precautions.

Spectral Properties
Ex/Em: 522/593 nm* (with DNA)
*Ethidium Bromide also has a strong UV absorbance peak at 279 nm

Product Description
Ethidium bromide (EB) is a widely used nucleic acid gel stain although it is also a known potent mutagen. EB is an intercalating DNA-binding dye with little sequence preference. Because of its toxicity, we offer EB solution in H_2O as a safer alternative to weighing out the powdery solid. In addition, we also offer activated charcoal bags for convenient removal of the dye from solution (catalog no. 22007).

For safer and more sensitive DNA gel staining, we highly recommend that you switch to GelRed® or GelGreen® (see Related Products table for our full line fo GelRed® and GelGreen® products). Scientists at Biotium developed GelRed® and GelGreen® using a novel yet very simple concept: reduce genotoxicity by preventing the dyes from entering living cells. The Ames test confirmed that GelRed® and GelGreen® are nonmutagenic at concentrations well above their working concentrations used for gel staining. In addition, GelRed® is much more sensitive than EB and less prone to migrate toward the wells of the gel during electrophoresis of precast gels.

Biotium also offers DNAzure® (catalog no. 41020), a unique, visible blue DNA gel stain. DNAzure® allows you to visualize DNA bands in gels by eye, with detection sensitivity rivaling most fluorescence-based gel stains.

Precast Gel Staining Protocol

1. Prepare molten agarose gel solution using your standard protocol.
2. Dilute the 10 mg/mL Ethidium Bromide dye into the molten agarose gel solution at 1:10,000-1:20,000 for 0.5-1 ug/mL final concentration, and mix thoroughly.
3. Cast the gel and allow it to solidify.
4. Load samples and run the gels using your standard protocol.
   Note: EB migrates toward the wells during electrophoresis, so higher MW bands may stain more brightly than lower MW bands. This can be avoided by post-staining the gel.

Post-Staining Protocol

1. Run gels according to your standard protocol.
2. Dilute the 10 mg/mL Ethidium Bromide dye 1:10,000-1:20,000 in water for 0.5-1 ug/mL final concentration.
3. Place the gel in a suitable container such as a polypropylene staining tray. Add a sufficient amount of the staining solution to submerge the gel.
4. Agitate the gel gently at room temperature for ~30 minutes.
5. If high background is observed, destain the gel in water for 5-15 minutes to remove excess dye.

Waste disposal
Since Ethidium Bromide is a known mutagen, staining and destaining solutions, as well as stained gels, should be disposed as hazardous waste according to your local regulations, or decontaminated using activated charcoal before disposing down the sink.

Related Products

Catalog number	Product
41028	Agarose LE, Ultrapure Molecular Biology Grade
41029	GelRed® Agarose LE
41030	GelGreen® Agarose LE
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
41020	DNAzure® Blue Nucleic Acid Gel Stain
41008	PAGE GelRed® Nucleic Acid Gel Stain
41006	TBE Buffer, 5X (4L Cubitainer®)
41011	GelRed® Prestain Plus 6X DNA Loading Dye
31022	Ready-to-Use 1 kb DNA Ladder
31032	Ready-to-Use 100 bp DNA Ladder
22007	Activated Charcoal Decontamination Bags
31030	DNA Gel Extraction Kit
41024-4L	Water, Ultrapure Molecular Biology Grade (4L Cubitainer®)
31066	AccuGreen™ High Sensitivity dsDNA Quantitation Kit for Qubit®
31069	AccuGreen™ Broad Range dsDNA Quantitation Kit for Qubit®
31028	AccuClear® Ultra High Sensitivity dsDNA Quantitation Kit
31041	Forget-Me-Not™ EvaGreen® qPCR Master Mix (2-Color Tracking)
31043	Forget-Me-Not™ Universal Probe qPCR Master Mix
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, DNA and protein gel stains, Western blot reagents, fluorescent CF® dye antibody conjugates and reactive dyes, apoptosis reagents, fluorescent probes, and kits for cell biology research.