

Product Information

PAGE GelGreen™ Nucleic Acid Gel Stain, 1X in water

Catalog Number: 41013

Unit Size: 4 L

Concentration: 1X in water

Storage and Handling

Store at room temperature, protected from light. Product is stable for at least 12 months from date of receipt when stored as recommended. While PAGE GelGreen™ has been shown in laboratory tests to be non-mutagenic and non-hazardous for waste disposal, we recommend using universal safety precautions when working in the laboratory.

Spectral Properties

Excitation/Emission: 277, 519/537 nm (with dsDNA) (Figure 1).

Product Description

PAGE GelGreen™ is a non-toxic, non-mutagenic green DNA gel stain specifically designed to stain DNA in polyacrylamide gels (Figure 2). PAGE GelGreen™ can be imaged using a 254 nm UV transilluminator with a SYBR® Green filter, or with gel readers equipped with visible light excitation, such as Dark Reader® imaging systems or 488 nm laser-based gel scanners. While PAGE GelGreen™ also can be used to stain DNA in agarose gels, Biotium's original GelGreen™ nucleic acid gel stain (catalog number 41005) is more sensitive for agarose gel applications. PAGE GelGreen™ can be removed from DNA after agarose gel staining using commonly available gel extraction kits. PAGE GelGreen™ is 2-3 times more sensitive for dsDNA over RNA.

PAGE GelGreen™ was subjected to a series of tests at Biotium and two independent laboratories to assess the dye's safety for routine handling and disposal. Laboratory tests show that the dye is impenetrable to latex or nitrile gloves and cell membranes. Unlike the highly mutagenic EtBr and the reportedly mutation-enhancing SYBR® Green I (1), PAGE GelGreen™ is non-toxic and non-mutagenic in bacterial AMES tests at concentrations well above the working concentrations used in gel staining. PAGE GelGreen™ successfully passed environmental safety tests in compliance with CCR Title 22 Hazardous Waste Characterization, under which it is classified as non-hazardous waste. A complete safety report is available at www.biotium.com.

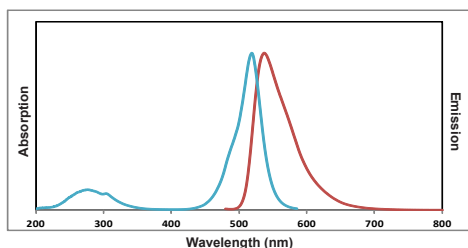


Figure 1. Absorbance (left) and emission (right) spectra of PAGE GelGreen™ bound to dsDNA in water.

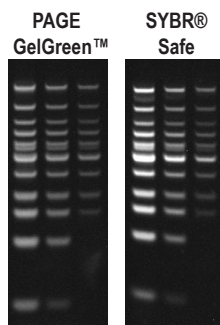


Figure 2. 10% polyacrylamide gels were post-stained with either 1X PAGE GelGreen™ or 1X SYBR® Safe. Low Molecular Weight DNA Ladder (NEB) was loaded at 500ng, 200ng, and 100ng from left to right. Lower MW bands have a limit of detection of around 10ng. Gels were imaged using a 254nm UV transilluminator and SYBR® Green emission filter.

PAGE GelGreen™ staining of DNA in polyacrylamide gels

1. Run gels as usual according to your standard protocol.
2. Carefully place the gel in a suitable polypropylene container. Gently add a sufficient amount of the 1X staining solution to submerge the gel.
3. Agitate the gel gently at room temperature for ~30 minutes, protected from light.
4. Image the stained gel with a 254 nm transilluminator, a Dark Reader® or a similar transilluminator, or a laser-based gel scanner using a long path green filter such as a SYBR® filter or GelStar® filter.

PAGE GelGreen™ staining of DNA in agarose gels

While PAGE GelGreen™ was specifically designed as a safe alternative for staining DNA in polyacrylamide gels, it also can be used to stain DNA in agarose gels using the staining protocol described above. Note that Biotium's original GelGreen™ nucleic acid gel stain (catalog number 41005) is more sensitive than PAGE GelGreen™ for staining DNA in agarose gels. PAGE GelGreen™ Nucleic Acid Gel Stain, 1X in water **cannot** be used to generate PAGE GelGreen™ pre-cast gels, nor for pre-staining of DNA by adding dye directly to DNA samples before gel loading.

References

1. Ohta et al. (2001) Mutation Research 492, 91.

Related Products

Catalog number	Product
41007-T	PAGE GelGreen™ Nucleic Acid Gel Stain, 10,000X in water (100uL)
31021	1 kb DNA Ladder (100ng/uL), 300 ug/300 uL
31022	Ready-to-Use 1 kb DNA Ladder, 150 applications (1.5 mL)
31031	100 bp DNA Ladder, 30 ug/300 uL
31032	Ready-to-Use 100 bp DNA Ladder, 150 applications (1.5 mL)
41005	GelGreen™ Nucleic Acid Gel Stain, 10,000X in water, 0.5 mL
41006	TBE Buffer, 5X, 4 L
31000-T	EvaGreen® Dye, 20X in water (trial size), 1 mL
31003-T	Fast EvaGreen® qPCR Master Mix (trial size, 100 rxn), 1 x 1 mL

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.

PAGE GelGreen™ and its uses are covered under pending US patents. GelGreen™ and its uses are covered by US patent numbers 7960498, 7803943, and 8232050. SYBR® is a registered trademark of Molecular Probes, Inc./Life Technologies. Dark Reader® is a registered trademark of Clare Chemicals. Materials from Biotium are sold for research use only, and are not intended for food, drug, household, or cosmetic use.