Revised: August 20, 2013

Product Information

PAGE GelGreen™ Nucleic Acid Gel Stain, 10,000X in water

Catalog Number: 41007-T, 41007-500uL

Unit Size: 100 uL, 500 uL

Concentration: 10,000X 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.

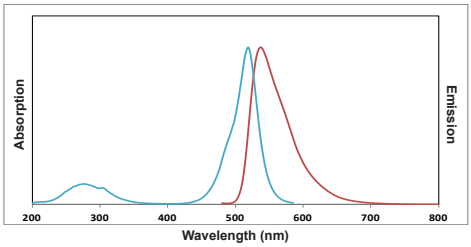

Figure 1. Absorbance (left) and emission (right) spectra of PAGE GelGreen™ bound to dsDNA in water.

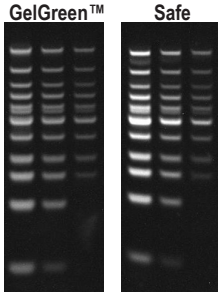

Figure 2. 10% polyacrylamide gels were post-stained with either 1X PAGE GelGreen™ or 1X SYBR® Safe. Low Molecular Weight DNA Ladder (NEB) was loaded at 500ng, 200ng, and 100ng from left to right. Lower MW bands have a limit of detection of around 10ng. Gels were imaged using a 254nm UV transilluminator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

PAGE GelGreen™ staining of DNA in polyacrylamide gels

1. Run gels as usual according to your standard protocol.
2. Prepare 1X staining solution by diluting the PAGE GelGreen™ 10,000X reagent 10,000-fold in water. For example, add 5 uL of 10,000X PAGE GelGreen™ stock solution to 50 mL dH_2O.
3. Carefully place the gel in a suitable polypropylene container. Gently add a sufficient amount of the 1X staining solution to submerge the gel.
4. Agitate the gel gently at room temperature for ~30 minutes, protected from light.
5. 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™ also can be added directly to molten agarose during gel casting (pre-casting). While the precast protocol is more convenient, some DNA samples may show migration retardation or compromised resolution in the presence of PAGE GelGreen™. Staining of gels after electrophoresis (post-staining) is recommended for the best results. PAGE GelGreen™ cannot be used to pre-stain 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
41013	PAGE GelGreen™ Nucleic Acid Gel Stain, 1X in water (4 L)
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.