



Earth-friendly

Environmentally safer alternatives

For gel staining, qPCR & DNA quantitation

Products for our planet

At Biotium we believe that it is important to protect our natural resources. For this reason, we strive whenever possible to create products that can be disposed of down the sink without harming wildlife. We also design these products with researchers' safety in mind. And unlike other companies that claim their products are safe, we have data to back us up, including environmental safety reports from third party testing facilities. The dyes featured here are all classified as non-hazardous for waste disposal under California Title 22 regulations.

DNA Gel Stains

GelRed® and GelGreen® are sensitive fluorescent DNA gel stains designed to replace highly toxic ethidium bromide (EtBr) and other so-called safe gel stains. Ames tests have confirmed that GelRed® and GelGreen® are nonmutagenic at concentrations well above the concentrations used for gel staining. Furthermore, environmental safety tests showed that GelRed® and GelGreen® are non-toxic to aquatic life, permitting disposal down the drain or in regular trash.

PAGE GelRed® is a DNA gel stain for use in acrylamide gels. In designing PAGE GelRed® dye, we used a novel approach to make the dye membrane impermeable without making the dye large. Like the regular GelRed® and GelGreen®, it does not penetrate into cells (Fig. 1), unlike other supposedly safe dyes.

For more information and references, download our white paper, Comparison of Nucleic Acid Gel Stains: Cell Permeability, Safety, and Sensitivity. Find the complete Safety Reports of GelRed® and GelGreen® or PAGE GelRed® at www.biotium.com.

Environmental Safety-Tested Dye Products

- DNA Gel Stains: GelRed®, GelGreen® & PAGE GelRed®
- One-Step Protein Gel Stains
- Forget-Me-Not™ EvaGreen® qPCR Master Mixes
- AccuBlue® High Sensitivity DNA Quantitation Kit
- AccuGreen™ Broad Range DNA Quantitation Kit (for Qubit®)

Environmental safety reports for our safety-tested products are available on our website or upon request.

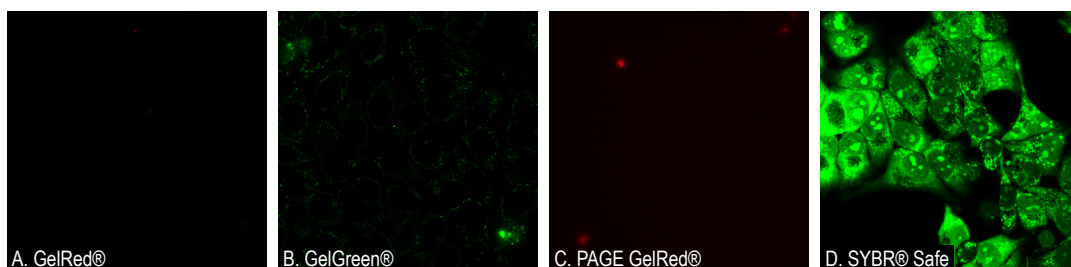


Figure 1. GelRed®, GelGreen®, & PAGE GelRed® do not stain the nucleus in living HeLa cells after 30 minutes incubation at 37°C. A. 3X GelRed® B. 3X GelGreen® C. 1X PAGE GelRed® D. 1X SYBR® Safe (5 minute stain).

Safer DNA Gel Stains

Cat. #	Product Name	Size
41003	GelRed® Nucleic Acid Gel Stain, 10,000X in water	0.5 mL
41001	GelRed® Nucleic Acid Gel Stain, 3X in water	4 L
41005	GelGreen® Nucleic Acid Gel Stain, 10,000X in water	0.5 mL
41008-500uL	PAGE GelRed® Nucleic Acid Gel Stain, 10,000X in water	0.5 mL
41014	PAGE GelRed® Nucleic Acid Gel Stain, 1X in water	4 L
41011	GelRed® Prestain Plus 6X DNA Loading Dye	1 mL
41029	GelRed® Agarose LE	50 g
41030	GelGreen® Agarose LE	50 g

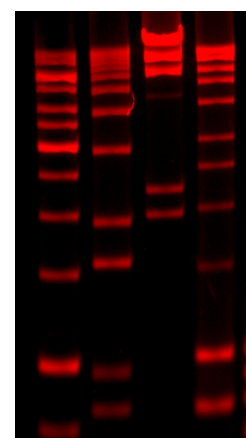


Figure 2. Precast agarose gel staining with GelRed®.



Protein Gel Stains

One-Step protein gel stains are ready-to-use solutions for the staining of PAGE gels. They produce fast protein staining in a single step without fixation or washing. In addition to rapid results and simple staining, One-Step stains offer safer handling and disposal compared to Coomassie and other stains because they are entirely aqueous-based, without hazardous methanol or acetic acid.

Biotium offers several versions of One-Step stains for different visualization methods. One-Step Blue® can be detected by visible blue staining or by near-infrared fluorescence. One-Step Lumitein™ is a red fluorescent protein gel stain that is able to be detected using a UV light box, laser gel scanner or blue light illuminator like Gel-Bright™. And One-Step Lumitein™ UV is optimized for maximum sensitivity on a UV transilluminator.

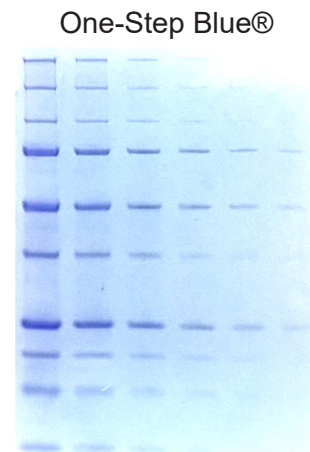


Figure 3. A protein ladder was loaded onto an SDS PAGE gel in 2-fold dilutions, and the gel was stained with One-Step Blue®.

Safer Protein Gel Stains

Cat. #	Product Name	Size
21003-1L	One-Step Blue® Protein Gel Stain	1 L
21004-1L	One-Step Lumitein™ Protein Gel Stain	1 L
21005-1L	One-Step Lumitein™ UV Protein Gel Stain	1 L

qPCR Master Mixes

Forget-Me-Not™ EvaGreen® qPCR Master Mixes are hot-start EvaGreen® dye-based master mixes for use in real time PCR applications and DNA melt curve analysis. They are available in no, low or high ROX formulations. There are also options available for two-color tracking, to reduce pipetting errors. In addition to being extremely bright and sensitive (Fig. 4), EvaGreen® dye is non-toxic, non-mutagenic, and not hazardous to aquatic life.

We also offer Forget-Me-Not™ Universal Probe Master Mix, a high-performance product for fluorescent probe-based PCR technologies, including hydrolysis probes (such as TaqMan® and dual-labeled BHQ® probes) and displacement probes (like Molecular Beacons).

Visit our website for a complete list of qPCR products, including other sizes and formulations.

Forget-Me-Not™ qPCR Master Mixes

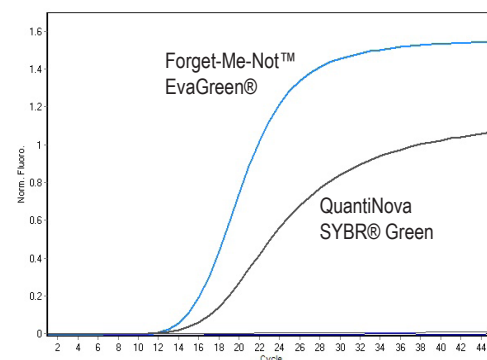


Figure 4. Real-time PCR data comparing Forget-Me-Not™ EvaGreen® (blue line) with Qiagen's QuantiNova® SYBR® Green (black line) master mix. Amplification curves on linear scale. Forget-Me-Not™ EvaGreen® dye-based qPCR master mixes perform as well or better, and yield higher signal when compared to SYBR® Green-based mixes.

Safer qPCR Master Mixes

Cat. #	Product Name	Size
31045-5mL	Forget-Me-Not™ EvaGreen® qPCR Master Mix (low ROX)	5 x 1 mL
31046-5mL	Forget-Me-Not™ EvaGreen® qPCR Master Mix (high ROX)	5 x 1 mL
31041-1	Forget-Me-Not™ EvaGreen® qPCR Master Mix with 2-Color Tracking	5 x 1 mL
31043-1	Forget-Me-Not™ Universal Probe Master Mix	5 x 1 mL

DNA Quantitation Kits

Biotium offers a wide selection of kits for quantitation of DNA. Our kits vary in the linear concentration range, instrument compatibility, and detection channel. Our AccuBlue® High Sensitivity and AccuGreen™ Broad Range kits use non-toxic and non-mutagenic DNA-binding dyes. For a complete list of our DNA quantitation kits, please visit our website.

AccuBlue® High Sensitivity (for plate reader)

- Linear range: 0.2-100 ng dsDNA
- Designed for fluorescent plate readers

AccuGreen™ Broad Range (for Qubit® reader)

- Linear range: 2-1000 ng dsDNA
- Designed for the Qubit® fluorometer

Safer DNA Quantitation Kits

Cat. #	Product Name	Size
31006	AccuBlue® High Sensitivity dsDNA Quantitation Kit with 8 DNA Standards	1000 assays
31069	AccuGreen™ Broad Range dsDNA Quantitation Kit (for Qubit®)	500 assays