

## GelGreen® Agarose LE

Ultrapure molecular biology grade agarose pre-coated with GelGreen® Nucleic Acid Gel Stain for convenient and safer preparation of precast gels.



### Product attributes

Assay type/options DNA/RNA gel staining

## Product Description

GelGreen® Agarose LE is our ultra-pure molecular biology grade LE agarose pre-coated with GelGreen® Nucleic Acid Gel Stain. With GelGreen® Agarose, there is no need to handle concentrated fluorescent dye while preparing your gel, for greater convenience and safety.

- Non-toxic GelGreen® DNA dye is already in the agarose
- No need to handle concentrated dye solutions, for enhanced safety
- Use with TAE or TBE for 0.8% to 2% gels
- Low EEO, ultrapure molecular biology grade agarose
- Compatible with blue light illuminators

GelGreen® Agarose LE has low electroendosmosis (EEO) for high electrophoretic mobility. This agarose has excellent performance for analytical or preparative nucleic acid electrophoresis and blotting. It is suitable for preparing 0.8%-2% gels in TAE or TBE buffer. In a 1% GelGreen® Agarose gel, the final GelGreen® concentration is 1X, just like in our standard precast protocol. GelGreen® Agarose also gives excellent results at percentages between 0.8% (0.8X GelGreen®) up to 2% (2X GelGreen®).

### GelGreen®: A Superior Green Fluorescent Gel Stain

GelGreen® is a sensitive, stable and environmentally safe green fluorescent nucleic acid dye specifically designed for gel staining. GelGreen® is far more sensitive than SYBR® Safe. Unlike SYBR® dyes, which are known to be unstable, GelGreen® is very stable, both hydrolytically and thermally. GelGreen® has UV absorption between 250 nm and 300 nm and a strong absorption peak centered around 500 nm. Thus, GelGreen® is compatible with UV transilluminators or blue light illuminators (like the Dark Reader®). With blue light illuminators, researchers can avoid exposure to UV irradiation for themselves and their DNA samples, for a safer work environment and higher cloning efficiency.

Gel staining with GelGreen® is compatible with downstream applications such as sequencing and cloning. GelGreen® can be removed from DNA using a gel extraction kit, or by phenol/chloroform extraction followed by ethanol precipitation. GelGreen® can be used to stain dsDNA, ssDNA or RNA, however GelRed® is much more sensitive for staining single-stranded nucleic acids than GelGreen®. To learn more about GelGreen®, see the [GelRed® & GelGreen® technology page](#), or FAQs (below).

### Non-Mutagenic and Safer for the Environment

GelGreen® was subjected to a series of tests at Biotium and by three independent testing services to assess the dye's safety for routine handling and disposal. Test results confirm that the dye is impenetrable to both latex gloves and cell membranes. The dye is non-cytotoxic and non-mutagenic at concentrations well above the working concentrations used in gel staining. Using GelGreen® Agarose further minimizes risk by avoiding the need to handle concentrated dye solution. GelGreen® successfully passed environmental safety tests in compliance with CCR Title 22 Hazardous Waste Characterization, under which GelGreen® is classified as non-hazardous waste. See the [GelRed® and GelGreen® Safety Report](#).

## Choose the Right Stain for Your Application

Product / Method	Procedure	Advantages	Disadvantages	Recommended for
DNA staining with <a href="#">EMBER™ Ultra DNA Gel Kit</a>	Agarose is supplied pre-coated with EMBER™ Ultra Dye, just dissolve, heat, and pour.	<ul style="list-style-type: none"> <li>• Safer and more convenient, no need to handle concentrated dye</li> <li>• Superior sensitivity, detect as little as <math>\leq 1</math> ng DNA</li> <li>• No need for post-electrophoresis staining</li> <li>• Optimal for blue LED gel imagers</li> </ul>	<ul style="list-style-type: none"> <li>• Not suitable for PAGE, DGGE, EMSA, or PFGE gels</li> <li>• Dye may cause band migration issues when loading larger amounts of DNA (more than ~200 ng/band), or for some restriction digests</li> </ul>	<ul style="list-style-type: none"> <li>• Routine agarose gels</li> </ul>

Product / Method	Procedure	Advantages	Disadvantages	Recommended for
RNA staining with <a href="#">EMBER™ Ultra RNA Gel Kit</a>	Agarose is supplied pre-coated with EMBER™ Ultra Dye, just dissolve, heat, and pour.	<ul style="list-style-type: none"> <li>• Safer and more convenient stain for RNA, no need to handle concentrated dye</li> <li>• Superior sensitivity, detect as little as ≤5 ng RNA</li> <li>• No need for post-electrophoresis staining</li> <li>• Included loading dye contains formamide for denaturing</li> <li>• Optimal for blue LED gel imagers</li> </ul>	<ul style="list-style-type: none"> <li>• Will stain DNA as well as RNA</li> <li>• Dye may cause band migration issues when loading larger amounts of RNA (more than ~200 ng/band)</li> </ul>	<ul style="list-style-type: none"> <li>• Routine RNA gel electrophoresis</li> <li>• Evaluate total RNA integrity and DNA contamination</li> </ul>
DNA prestaining with <a href="#">GelRed® Prestain Plus 6X DNA Loading Dye</a>	GelRed® loading buffer is added directly to the DNA sample before loading	<ul style="list-style-type: none"> <li>• Fast &amp; simple: one-step sample loading &amp; DNA staining</li> <li>• Less concentrated dye for safer handling</li> <li>• Can re-run a gel to use empty lanes</li> </ul>	<ul style="list-style-type: none"> <li>• Not recommended for PAGE, DGGE, EMSA, or PFGE gels</li> <li>• Dye may cause band migration issues when loading larger amounts of DNA (more than ~100 ng/band), or for some restriction digests</li> </ul>	<ul style="list-style-type: none"> <li>• Routine agarose gels</li> <li>• Recommended loading 50-200 ng ladder or 2-5 uL PCR product (~100 ng/band or less)</li> </ul>
Precast staining with <a href="#">GelRed® 10,000X in water</a> or <a href="#">GelGreen® 10,000X in water</a>	GelRed® or GelGreen® is mixed with molten agarose before gel casting	Familiar protocol, rapid results		
Precast staining with <a href="#">GelRed® Agarose LE</a> or <a href="#">GelGreen® Agarose LE</a>	Agarose is supplied pre-coated with GelRed® or GelGreen®, just dissolve, heat, and pour	Safer & more convenient, no need to handle concentrated dye		
Post-electrophoresis staining with <a href="#">GelRed® 10,000X in water</a> or <a href="#">GelGreen® 10,000X in water</a> - or - <a href="#">GelRed® 3X in water</a>	No fluorescent dye is added to the gel, it is stained in 3X GelRed® or 3X GelGreen® solution after electrophoresis	<ul style="list-style-type: none"> <li>• Most accurate sizing/sharpest bands</li> <li>• Staining solution can be re-used</li> <li>• Enhance sensitivity by adding NaCl</li> </ul>	Extra staining step (up to 30 minutes) after electrophoresis (some customers report good results after only 5 minutes if dye is not reused)	<ul style="list-style-type: none"> <li>• Highly accurate band sizing</li> <li>• Gels with more than ~100 ng DNA per band</li> <li>• Analyzing restriction digests</li> </ul>
Post-electrophoresis staining of PAGE gels using <a href="#">PAGE GelRed® 10,000X or 1X in water</a>	No fluorescent dye is added to the gel, it is stained in 1X PAGE GelRed® solution after electrophoresis	<ul style="list-style-type: none"> <li>• Formulated for efficient penetration and staining of polyacrylamide gels</li> <li>• Like the classic GelRed®, it is safe and environmentally friendly</li> </ul>	Extra staining step of approx. 30 minutes after electrophoresis	Staining of nucleic acids in PAGE gels

We also offer [GelRed® Agarose LE](#) and unlabeled [Agarose LE, Ultrapure Molecular Biology Grade](#). Biotium also offers the [Gel-Bright™ Laser Diode Gel Illuminator](#), a unique laser-diode-based illuminator that offers sensitive staining for both red and green dyes. Also learn about our [Go-Go™ Fast DNA Gel Running Buffer](#) for running gels 3X faster than with TAE or TBE buffer.

Dark Reader is a registered trademark of Clare Chemical. SYBR is a registered trademark of Thermo Fisher Scientific.

## References

Download a list of selected [References for GelRed® and GelGreen®](#).

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