SZABO SCANDIC

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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Product Information

GelRed® Agarose LE

Catalog number	Unit Size
41029-5G	5 g
41029-50G	50 g

Storage and Handling

Store at room temperature. Shake bottle before each use. GelRed® agarose is stable for at least one year from date of receipt when stored as recommended. If stored outside the original bottle, GelRed® agarose should be protected from light.

Product Description

GelRed® Agarose LE is our ultra-pure molecular biology grade LE agarose pre-coated with GelRed® Nucleic Acid Gel Stain. With GelRed® Agarose, there is no need to handle concentrated fluorescent dye while preparing your gel, for greater convenience and safety. Simply dissolve GelRed® Agarose in your favorite electrophoresis buffer, heat, and cast your gel. GelRed® 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% GelRed® Agarose gel, the final GelRed® concentration is 1X, just like in our standard precast protocol. GelRed® Agarose also gives excellent results at percentages between 0.8% (0.8X GelRed®) up to 2% (2X GelRed®).

GelRed® and EtBr have virtually the same spectra, so you can directly replace EtBr with GelRed® without changing your existing imaging system. In addition, GelRed® is far more sensitive than EtBr. GelRed® can be used to stain dsDNA, ssDNA or RNA, however GelRed® is twice as sensitive for double-stranded than single-stranded nucleic acids. Gel staining with GelRed® is compatible with downstream applications such as sequencing and cloning. GelRed® can be removed from DNA using a gel extraction kit, or by phenol/chloroform extraction followed by ethanol precipitation.

GelRed® 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 GelRed® Agarose further minimizes risk by avoiding the need to handle concentrated dye solution. GelRed® successfully passed environmental safety tests in compliance with CCR Title 22 Hazardous Waste Characterization, under which GelRed® is classified as non-hazardous waste. A complete safety report is available at www.biotium.com.

Although GelRed® has undergone extensive safety testing, Biotium recommends following universal safety precautions when working in the laboratory.

Instructions for gel casting

1. Shake the closed bottle to thoroughly mix the agarose.
2. Weigh out GelRed® Agarose for the desired gel percentage as shown below. The following DNA size ranges are to be used as a general guide only, optimal separation may vary depending on DNA sample or buffer used.

DNA fragment size	Gel percentage	Agarose per 50 mL
800-12,000 bp	0.8%	0.4 g
500-10,000 bp	1%	0.5 g
400-7000 bp	1.2%	0.6 g
200-3000 bp	1.5%	0.75 g
50-2000 bp	2%	1 g

Note: The final concentration of GelRed® in a 1% gel is 1X. The GelRed® concentration will vary with higher and lower agarose percentages, but gels from 0.8% and 2% give excellent results. Biotium's unlabeled Agarose LE (catalog no. 41028) could be mixed with GelRed® LE Agarose to generate different percentage gels with a controlled GelRed® concentration.

3. Add the agarose to 1X TAE or 1X TBE buffer in an Erlenmeyer flask that is large enough to allow the solution to boil (for example, use a 125 mL or larger flask to make 50 mL agarose).
4. Microwave for 1 minute, swirl to mix, and microwave for an additional minute.

   Caution! Handle heated solutions of agarose with care to avoid boiling over and the risk of burns.
5. Swirl to mix and make sure agarose is completely dissolved.
6. Allow the solution to cool for ~1 minute.
7. Pour the gel and insert the comb.
8. Allow the gel to set and cool completely before removing the comb.
9. Run the gel in the same type of buffer used for casting.

Storing GelRed® agarose gels:

Unused agarose containing GelRed® can be remelted to cast more gels, we recommend storing the solidified agarose protected from light. We do not recommend storing agarose containing GelRed® in molten form (i.e., at 50°C) for more than a few days. Precast gels containing GelRed® can be stored for future use for up to a week at room temperature in the dark. Storage of GelRed® precast gels at 4°C can cause dye precipitation and poor performance.

Guidelines for gel loading:

For GelRed® precast gels, we recommend running 50-200 ng DNA per lane. If you do not know the amount of DNA in your sample, we recommend loading 1/2 to 1/3 the amount you would usually load on an ethidium bromide gel. Overloading of DNA can lead to band smiling or smearing.

See the next page for answers to GelRed® Frequently Asked Questions (FAQs).

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Frequently Asked Questions	Answers
Is GelRed® compatible with downstream applications such as cloning, ligation and sequencing?	Yes. We recommend using a gel extraction kit or phenol-chloroform extraction to remove the dye from DNA. Some users have reported performing PCR on DNA in the presence of GelRed® with no purification step, for example by incubating GelRed®-stained gel slices in TE buffer to extract DNA by passive diffusion for use in PCR, or by using a few microliters of molten agarose from GelRed®-stained gel slices containing DNA for PCR.
What is the lower detection limit of GelRed®?	Some users have reported being able to detect bands containing less than 0.1 ng DNA. However, the limit of detection will depend on instrument capability and exposure settings.
What is the binding mechanism of GelRed®?	GelRed® has been shown to bind DNA exclusively by intercalation (http://link.springer.com/article/10.1007/s00249-014-0995-4).
What is the chemical structure of GelRed®?	The chemical structure of GelRed® is proprietary.
Does GelRed® migrate during electrophoresis?	GelRed® does not migrate through the gel as easily as EtBr, so gel staining is more even with GelRed® than with EtBr.
Does GelRed need to be used in the dark?	GelRed® is very stable. You can use the dye in room light, however we recommend keeping GelRed® agarose gels in the dark if you are storing them more than one day.
What loading buffers are compatible with GelRed®?	Commonly used gel loading buffers with blue tracking dyes like our 6X DNA Loading Buffer (Blue) (Related Products) work well in GelRed® gels. Loading buffer containing 0.1% Orange G also gives good results. Loading buffers containing SDS or fluorescent DNA dyes may contribute to band smearing in precast GelRed® gels.
What DNA ladders are compatible with GelRed®	A variety of commercial DNA ladders have been used with GelRed® with good results. Our Ready-to-Use DNA Ladders (Related Products) are validated for use in GelRed® precast gels.
Can GelRed® be used to stain ssDNA or RNA?	GelRed® can be used to stain ssDNA and RNA, but it is twice as sensitive for dsDNA than for ssDNA or RNA.
Can GelRed® be used for formaldehyde or PFGE (pulse-field) gels?	Yes. Customers have reported using GelRed® in glyoxal and formaldehyde agarose gels for precast staining of RNA, as well as in PFGE gels.
Is GelRed® compatible with Southern or northern blotting?	GelRed® has been validated for Southern blotting (Plant Cell Report doi:10.1007/s00299-011-1150-7). However, we recommend using original GelRed® (catalog number 41001 or 41003) with the post-staining protocol for blotting.
What emission filter should I use with GelRed®?	You can use filters for ethidium bromide, SYBR® or GelStar™ for gel imaging with equally good results.
Can I store GelRed® gels after casting?	Yes, gels can be stored at room temperature for up to a week protected from light. Storage of GelRed® precast gels at 4°C can cause dye precipitation and poor performance.
Can I reuse a GelRed® precast gel after electrophoresis?	We do not recommend reusing GelRed® precast gels as signal decreases with subsequent electrophoresis.
How should I dispose of GelRed®?	GelRed® has passed the EPA regulated Title 22 test. Some facilities have approved the disposal of GelRed® directly down the drain or in regular trash. However, because regulations vary, please contact your safety office for local disposal guidelines. GelRed® can be adsorbed to activated charcoal (Related Products) for chemical waste disposal.

Related Products

Catalog number	Product
41028	Agarose LE, Ultrapure Molecular Biology Grade
41006	TBE Buffer, 5X (4L Cubitainer®)
99962-1	6X DNA Loading Buffer (Blue)
31022	Ready-to-Use 1 kb DNA Ladder
31032	Ready-to-Use 100 bp DNA Ladder
22007	Activated Charcoal Decontamination Bags
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
41009	6X GelRed® Prestain Loading Buffer with Blue Tracking Dyes
41010	6X GelRed® Prestain Loading Buffer with Orange Tracking Dye
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, fluorescent CF® dye antibody conjugates and reactive dyes, apoptosis reagents, fluorescent probes, and kits for cell biology research.